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THE UNIVERSITY OF ALBERTA  
POST-SECONDARY EDUCATIONAL PLANS AND THEIR CORRELATES  
IN ALBERTA RURAL PUBLIC HIGH SCHOOLS

by



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A THESIS  
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE  
OF MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

EDMONTON, ALBERTA

FALL, 1971



THE UNIVERSITY OF ALBERTA  
FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the faculty of Graduate Studies and Research for acceptance, a thesis entitled "Post-Secondary Educational Plans and Their Correlates in Alberta Rural Public High Schools" submitted by Sen Keoyote in partial fulfilment of the requirements for the degree of Master of Education.





## ABSTRACT

The purpose of this study was to investigate the relationship between twelfth grade students' post-secondary educational plans and these variables: the organizational climate of schools, student achievement, satisfaction, socioeconomic background, age and sex. Consideration was also given to congruence of teacher and student perceptions of the organizational climate of schools.

Four instruments were used to collect the data. They were the School Climate Questionnaire, the OCDQ, the OCDQ modified for students, and a Student Questionnaire which included personal information and satisfaction subtests.

Four schools were selected from rural public high schools in Alberta, having twenty or more teachers and offering Grade XII. The selection was based on the climate openness as indicated by principals and vice principals. Two of the schools had the most open climate and the other two the least open climate. Of all the respondents from these schools, 97 were teachers and 167 were grade twelve students.

The findings confirmed that Schools A and B were more open than Schools C and D. Teachers and students showed similarity in their perceptions of the differences in openness and climate subtests between the two school groups. The evidence indicated an existence of congruence of climate perceptions by administrators, teachers, and students.

Of the 167 students, about one-fifth aspired to Plan U "University" and another one-fifth chose Plan C "Junior College and Nurses Training". About one-third opted for Plan



T "NAIT, SAIT and Agricultural College". More than a quarter indicated Plan O "Other and None".

No significant relationship existed between students' post-secondary educational plans and the organizational climate of schools.

In the open climate schools, satisfaction scores tended to be higher for students in Plan C than for Plan O. Also, students in Plans U and C seemed to have a higher level of achievement than those in Plans T and O. No such relationships were found in the closed climate schools.

Post-secondary educational plans were significantly related to programs of study. All university-bound students were taking matriculation. Of students in Plans C and O, a majority were taking matriculation. However, there was no discrepancy between program enrolments for Plan T.

Students' post-secondary options were significantly related to parents' levels of education and income, but not to father's occupation categorized as "farming" and "non-farming". Plan U included students from families with highest parents' levels of education and income. The opposite case was true for Plan O. Plan C aspirants seemed to come from families with low father's education, high mother's education and average parental incomes. Plan T included students whose families were low on father's education, average on mother's education and high on parental incomes.

While age was not associated with plans, sex was significantly related. More males than females aspired to Plan U while the opposite case was true for Plan C.



## ACKNOWLEDGEMENTS

The author wishes to acknowledge the valuable advice and guidance given throughout the course of this study by Dr. D. Friesen, the supervisor of this thesis. Special thanks are extended to the other members of the thesis committee, Dr. L. R. Gue and Dr. V. R. Nyberg.

Appreciation is expressed to the principals and vice principals who cooperated in this study. The author is also grateful to the teachers and students who made this study possible by giving up their valuable time to respond to the questionnaires.





## TABLE OF CONTENTS

Chapter	Page
1. DEFINITION AND DISCUSSION OF THE PROBLEM . . . . .	1
The Problem . . . . .	1
Introduction . . . . .	1
The Problem . . . . .	1
Significance of the Problem . . . . .	2
Definition of Terms . . . . .	3
Post-Secondary Educational Plan . . . . .	3
Organizational Climate. . . . .	3
Achievement . . . . .	3
Satisfaction . . . . .	3
Socioeconomic Background . . . . .	3
Program of Study . . . . .	3
Statement of Problem . . . . .	4
Sub-problems . . . . .	4
Delimitations . . . . .	5
Limitations . . . . .	5
Assumptions . . . . .	6
Organization of the Thesis . . . . .	7
2. RELATED LITERATURE, THEORETICAL FRAMEWORK AND HYPOTHESES . . . . .	8
Related Literature . . . . .	8
Organizational Climate of Schools . . . . .	8
Students' Post-Secondary Educational Plans. . . . .	11
Factors Affecting Post-Secondary Educational Plans . . . . .	12



Chapter	Page
Theoretical Framework . . . . .	14
Slocum's Model . . . . .	14
The Getzels Model . . . . .	15
Theory of Perception . . . . .	17
An Operational Model . . . . .	17
Hypotheses . . . . .	18
Hypotheses Related to Teacher and Student Perceptions of Organizational Climate of Schools . . . . .	18
Hypotheses Related to Post-Secondary Educational Plans and School-Associated Variables . . . . .	19
Hypotheses Related to Post-Secondary Educational Plans and Family Variables . .	20
Hypotheses Related to Post-Secondary Educational Plans and Student Personal Variables . . . . .	20
Summary of Chapter Two . . . . .	21
3. RESEARCH DESIGN . . . . .	22
Instrumentation . . . . .	22
The School Climate Questionnaire . . . . .	22
The Organizational Climate Description Questionnaire . . . . .	23
The Organizational Climate Description Questionnaire (modified for students). . .	23



Chapter	Page
The Student Questionnaire . . . . .	24
Methodology . . . . .	25
The Population . . . . .	25
The Sample . . . . .	25
Data Collection and Treatment . . . . .	25
Treatment of Incomplete Questionnaires . .	26
Statistical Procedures . . . . .	26
Levels of Significance . . . . .	27
Summary of Chapter Three . . . . .	28
4. DESCRIPTION OF THE SAMPLE . . . . .	29
The Teachers . . . . .	29
The Students . . . . .	31
Summary of Chapter Four . . . . .	44
5. ANALYSIS OF DATA: TEACHER AND STUDENT	
PERCEPTIONS OF CLIMATE . . . . .	45
Testing the Hypotheses . . . . .	45
Hypothesis one . . . . .	45
Hypothesis two . . . . .	47
Hypothesis three . . . . .	47
Hypothesis four . . . . .	49
Hypothesis five . . . . .	49
Hypothesis six . . . . .	49
Hypothesis seven . . . . .	54
Hypothesis eight . . . . .	54
Summary of Chapter Five . . . . .	56





## 6. ANALYSIS OF DATA: POST-SECONDARY EDUCATIONAL

PLANS AND SELECTED VARIABLES . . . . .	58
Testing the Hypotheses . . . . .	58
Hypothesis nine . . . . .	58
Hypothesis ten . . . . .	59
Hypothesis eleven . . . . .	59
Hypothesis twelve . . . . .	63
Hypothesis thirteen . . . . .	63
Hypothesis fourteen . . . . .	63
Hypothesis fifteen . . . . .	66
Hypothesis sixteen . . . . .	66
Hypothesis seventeen . . . . .	69
Hypothesis eighteen . . . . .	73
Hypothesis nineteen . . . . .	73
Hypothesis twenty . . . . .	73
Hypothesis twenty-one . . . . .	76
Hypothesis twenty-two . . . . .	76
Summary of Chapter Six . . . . .	80
7. SUMMARY, CONCLUSIONS AND IMPLICATIONS . . . . .	83
Summary of the Study . . . . .	83
The Problem . . . . .	83
Procedure . . . . .	84
Summary of Findings Related to Congruence of Teacher and Student Climate Perceptions . . . . .	85



Chapter	Page
Summary of Findings Related to Post- Secondary Educational Plans and School-Associated Variables . . . . .	86
Summary of Findings Related to Post- Secondary Educational Plans and Family Variables . . . . .	87
Summary of Findings Related to Post- Secondary Educational Plans and Student Personal Variables . . . . .	88
Conclusions . . . . .	89
Implications . . . . .	92
Implication for Theory and Practice . . . . .	92
Recommendations for Further Research . . . . .	94
BIBLIOGRAPHY . . . . .	96
APPENDIX . . . . .	99
Instruments Used in this Study . . . . .	99



## LIST OF TABLES

Table	Page
1. Distribution of the Teachers by Schools . . . . .	30
2. Distribution of Students by Post-Secondary Educational Plans . . . . .	32
3. Distribution of Students by Schools and Programs of Study . . . . .	33
4. Distribution of Students by Schools and Sex . . .	35
5. Distribution of Students by Age . . . . .	36
6. Distribution of Students by Schools and Achievement . . . . .	37
7. Distribution of Students by Schools and by Father's Levels of Education . . . . .	38
8. Distribution of Students by Schools and by Mother's Levels of Education . . . . .	39
9. Distribution of Students by Parental Income . . .	41
10. Distribution of Students by Father's Occupation .	42
11. Distribution of Students by Satisfaction Score .	43
12. Analysis of Variance of Degree of Openness as Perceived by Teachers Between Schools . . . . .	46
13. Probability Matrix for Scheffe Multiple Comparison of Means . . . . .	46
14. Analysis of Variance of Teacher Perceptions of Climate Between Schools . . . . .	48
15. Scheffe Multiple Comparison of Means . . . . .	48





## Table

## Page

16. Analysis of Variance of Degree of Openness as Perceived by Teachers Between Schools A-B and Schools C-D . . . . .	50
17. Analysis of Variance of Teacher Perceptions of Climate Between Schools A-B and Schools C-D . . .	50
18. Analysis of Variance of Degree of Openness as Perceived by Students Between Schools . . . .	51
19. Probability Matrix for Scheffe Multiple Comparison of Means . . . . .	51
20. Analysis of Variance of Student Perceptions of Climate Between Schools . . . . .	52
21. Scheffe Multiple Comparison of Means . . . . .	53
22. Analysis of Variance of Degree of Openness as Perceived by Students Between Schools A-B and Schools C-D . . . . .	55
23. Analysis of Variance of Student Perceptions of Climate Between Schools A-B and Schools C-D . . .	55
24. Summary of Analyses of Variance of Teacher and Student Perceptions of School Climate Between Schools A-B and Schools C-D . . . . .	57
25. Analysis of Variance of Degree of Openness by Post-Secondary Educational Plans . . . . .	60
26. Analysis of Variance of Student Perceptions of Climate Dimensions by Post-Secondary Educational Plans . . . . .	61



Table	Page
27. Chi Square Test Between Post-Secondary Educational Plan and Climate Type of School . . .	62
28. Analysis of Variance of Satisfaction Score of Students Grouped by Post-Secondary Options in Open Climate Schools . . . . .	64
29. Probability Matrix for Scheffe Multiple Comparison of Means . . . . .	64
30. Kruskal-Wallis Test of Difference in Satisfaction Between Students Grouped by Post-Secondary Options in Closed Climate Schools . . .	65
31. Analysis of Variance of Achievement of Students Grouped by Post-Secondary Options in Open Climate Schools . . . . .	67
32. Probability Matrix for Scheffe Multiple Comparison of Means . . . . .	67
33. Kruskal-Wallis Test of Differences in Achievement Between Students Grouped by Post-Secondary Options in Closed Climate Schools . . . . .	68
34. Chi Square Test Between Post-Secondary Educational Plan and Program of Study . . . . .	70
35. Analysis of Variance of Father's Level of Education by Post-Secondary Educational Plans. . . . .	71
36. Kruskal-Wallis Test of Difference in Father's Level of Education Between Students Grouped by Post-Secondary Options . . . . .	72



Table	Page
37. Analysis of Variance of Mother's Level of Education by Post-Secondary Educational Plans . . . . .	74
38. Probability Matrix for Scheffe Multiple Comparison of Means . . . . .	74
39. Chi Square Test Between Post-Secondary Educational Plan and Father's Occupation . . . . .	75
40. Analysis of Variance of Parental Income by Post-Secondary Educational Plans . . . . .	77
41. Probability Matrix for Scheffe Multiple Comparison of Means . . . . .	77
42. Analysis of Variance of Student Ages By Post-Secondary Educational Plans . . . . .	78
43. Probability matrix for Scheffe Multiple Comparison of Means . . . . .	78
44. Chi Square Test Between Post-Secondary Educational Plan and Sex . . . . .	79
45. Summary of Findings on Variables Related to Post-Secondary Educational Plans . . . . .	81



## Chapter 1

### DEFINITION AND DISCUSSION OF THE PROBLEM

#### THE PROBLEM

##### Introduction

As young people approach graduation from high school, they are faced with important educational decisions. They are confronted with several alternatives from which they must choose. Whatever choice they make will play a vital role in determining the future course of their lives.

In the process of their post-secondary education planning, high school students are likely to weigh alternatives in the light of several factors. In the school setting, for example, the kind of social interaction provided through administration may have a certain influence over their thoughts. It is possible that the organizational climate of the school could have a connection with the educational plans of its clientele. Outside of the school setting, there might be some family factors that are directly related to post-high school education choice of youth. Finally, there are some personal variables that might be associated with these choices.

##### The Problem

The primary aim of this research was to investigate the nature of twelfth grade students' post-secondary





educational plans in high schools. An examination was made to determine whether an association existed between such plans and the following variables: school climate, achievement, satisfaction, socioeconomic background, sex and age.

### Significance of the Problem

A vast number of research studies have revealed a close relationship between youth's educational and vocational aspirations and such factors as family income (Larson and Slocum, 1969), father's occupational status and educational achievement (Siemens, 1965), and rural or non-rural residence (Seron, 1967). These studies show high aspirations to be associated with high family income, high father's occupational level and educational attainment, and non-farm residence. However, very little has been done in examining the relationship between youth's educational plans and the organizational climate of schools.

Results of the study made by McDill and others (1969) showed that the educational and social environment of the school does have a moderate effect on the academic behavior and the college plans of the students. Another important study made by Mayeske and others (1969) disclosed that the influence of the school cannot be separated from that of the student's background, and that at the twelfth grade the school influence is stronger than the social background influence for motivational and attitudinal outcomes. The two studies pointed out the importance of the school as a major institution providing an environment to nurture the



academic and occupational aspirations of the student. The school influence over the educational aspirations of students may be related to the organizational climate. This study hoped to indicate whether or not such a relationship existed.

### Definition of Terms

Post-Secondary Educational Plan refers to the individual student's plan following his high school graduation. Possible plans include aspirations to university, junior colleges, nurses training, technical institutions, agricultural colleges, and other plans.

Organizational Climate refers to the eight subtests of the Organizational Climate Description Questionnaire modified for students as well as the overall climate of openness. This, in effect, refers to the students' perceptions of the organizational climate of the school they are in.

Achievement refers to the averaged grade for the English and social studies courses on the last report card.

Satisfaction refers to the result on the Satisfaction subscale in the Student Questionnaire. This subscale is adapted from Bevan's Student Satisfaction Scale (1970). The instrument shows relationships of students with peers, teachers, administrators, and school experiences.

Socioeconomic Background refers to parental educational attainment, family income and father's occupation, as indicated in the Student Questionnaire.

Program of Study refers to the student's educational program which may fall into any one of the following:



matriculation, general, business, and technical-vocational.

### Statement of Problem

What is the nature of students' post-secondary educational plans in Alberta rural public high schools? What relationship exists between students' post-secondary educational plans and the following variables: student perceptions of organizational climate, student satisfaction, achievement, socioeconomic background, program of study, sex and age?

### Sub-problems

1. Is there congruence of teacher perceptions and student perceptions of school climate?
2. Are students' post-secondary educational plans related to student perceptions of school climate?
3. Do students who have differing post-secondary educational plans fulfil differing levels of satisfaction in either category of school climate?
4. Do students who have differing post-secondary educational plans attain differing degrees of achievement in either category of school climate?
5. Are students' post-secondary educational plans associated with socioeconomic background?
6. Are students' post-secondary educational plans related to their programs of study?
7. Is there any difference in post-secondary educational plan between sex and between age categories?



## DELIMITATIONS

1. The study was conducted in four rural public high schools in Alberta. Two of them had an open climate and the other two had a closed climate as measured by the OCDQ.
2. All questionnaires were supplied and returned in the spring of 1971.
3. Incomplete questionnaires were discarded.
4. Students absent on the day or failing to respond were not included.
5. Questionnaires of students who failed to answer the item on their post-secondary educational plans were not included.

## LIMITATIONS

The study was first limited by the small school sample, which in turn might make it inaccurate to draw inferences for the general population. This limitation was in connection with the sampling technique employed. As the schools were not randomly selected, they represented those on the extreme ends of the climate continuum. When generalizations were made, caution had to be exercised for those schools in the middle of the continuum.

Another limitation was the reliability of responses to the questionnaires. While these questionnaires had been validated, there was no warranty that all responses were completely reliable.

Finally, the study was limited by the degree of





difference in climate openness between the schools. As the investigation was based on a climate of openness or closedness, the analyses were dependent upon how accurately one could categorize the schools as having an open or closed climate. Small discrepancies of climate characteristics between schools would impose the question of drawing legitimate conclusions.

### ASSUMPTIONS

1. It was assumed that the Organizational Climate Description Questionnaire, its modified form for students, together with the satisfaction and achievement instruments all gave valid and reliable measurements of the variables to be studied.

2. It was assumed that the responses of the principals, the vice principals, the teachers, and the students on the questionnaires were unbiased.

3. It was assumed that the student sample was adequate and representative enough to draw conclusions regarding the rural public high school population of Alberta.

4. It was assumed for purposes of statistical analysis that the scales used in the instruments were at least interval scales.

5. It was assumed that the grades reported for the English and social studies courses were correct grades, indicative of the students' achievement, comparable in meanings for all schools and for both subjects, and additive in nature.



## ORGANIZATION OF THE THESIS

A summary of the related literature, theoretical framework, and hypotheses are presented in the next chapter. It is followed by a description and discussion of the research design in Chapter Three. Chapter Four presents a complete description of the samples used in the study. The procedures in the analysis of the data are outlined in Chapter Five on climate perceptions and Chapter Six on post-secondary educational plans and related variables. These chapters also report the results of the statistical treatments and discuss their significance. The final chapter deals with a summary of the study, gives some conclusions, and suggests some implications for practice and further research.



## Chapter 2

### RELATED LITERATURE, THEORETICAL FRAMEWORK AND HYPOTHESES

#### RELATED LITERATURE

##### Organizational Climate of Schools

Halpin and Croft (1963) are considered to be the first two researchers to analyze and identify the organizational climate of the school. They developed the Organizational Climate Description Questionnaire (OCDQ) comprising 64 items to be completed by the teachers. The first study was made on seventy-one elementary schools chosen from six different regions in the United States. The authors employed factor analysis and were able to delineate eight subtests each measuring a different factor of the school climate. These factors are called dimensions which include, on the one hand, Disengagement, Hindrance, Esprit, and Intimacy describing the teachers' behavior, and, on the other hand, Aloofness, Production Emphasis, Thrust, and Consideration describing the principal's behavior. These eight subtests are then employed to plot the profile of the organizational climate. The schools are then identified on the basis of these profiles as having open, autonomous, controlled, familiar, paternal or closed climate.

Many authors have carried out studies using the OCDQ. Feldvebel (1964) found three subtests of the OCDQ significantly related to the socioeconomic status of the



school community and the student achievement. Pyra (1965) found that student attitudes could be predicted by the OCDQ subtests, the most effective being Production Emphasis, Intimacy, and Disengagement, respectively.

Other research studies were related to teacher and principal variables. Andrews (1965) found a very strong positive relationship between teacher satisfaction and Esprit and Thrust, but a negative relationship between the same variable and Production Emphasis and Hindrance. He also found a high positive correlation between principal effectiveness and Thrust. This was supported by Pyra's study (1965) which also revealed a relationship between the teacher effectiveness and Production Emphasis. Keis (1967) studied the relationship between teacher turnover and organizational climate and found high-turnover rates associated with paternal-closed climate. Miller (1966) in his research found contradictions, and concluded that organizational climate was not related to school achievement.

Lupini (1966), following Prince's theory and method (1957), looked at principal and teacher values and related them to the OCDQ. With few exceptions, the study showed significant relationships between school climate and congruency of values held by principals and teachers. Stryde (1966) carried out a study and found that administrators tended to rate the climate of a school "more open" than teachers did. Similarly, Marsh (1970) who conducted one of the most important studies related to this thesis found that congruence of climate perceptions by teachers and students did not exist





in his sample of schools.

Miklos (1965) suggested that the level of program development in a school is a function of the organizational climate. He reasoned that the climate of some schools is conducive to improvement of the instructional program, while others have a climate antagonistic to such activities. This is supported in part by McDill and others (1969) who, as cited earlier, found a relationship between the educational and social environment of the school and the academic behavior and the college plans of the pupils.

These studies have revealed the relationships between the organizational climate of schools and several variables. The socioeconomic status of the community, the administrator's and staff's value system, and the improvement of the instructional program are all correlates of the school climate. They may be thought of as factors which determine the administrative function of the principal. This function in turn will be reflected in such variables as teacher turnover, teacher satisfaction, student attitudes, and student achievement which are again associated with the school climate. A finding considered very significant to this study is the one by Marsh (1970) which shows a lack of congruence of climate perceptions by teachers and students. Equally important is another finding which reveals the effect of the school environment on students' college intentions. (McDill and others, 1969)



## Students' Post-Secondary Educational Plans

Bowles and Slocum (1967) studied the educational and occupational aspirations and expectations of boys and girls who were juniors and seniors in a sample of fourteen Washington high schools in the 1965-66 school year. They found that nearly all students aspired and expected to graduate from high school and to get some kind of post-high school education. Over three-fourths of the respondents aspired to attend college or junior college at some time during their educational careers, while over one-seventh aspired to attend business or vocational school. They also indicated that the data collected by the United States Census in October 1965 showed 72 per cent of the students between the ages of 14 and 19 who were enrolled in public schools below the college level expected to attend college.

Probably one of the most closely related studies was a three year follow-up study undertaken by Nikolaichuck (1970:15-19) on post-secondary plans in the counties of Minburn and Two Hills in Alberta. He found that 5% of the males and 15% of the females attended university, 3% of the males and 32% of the females entered junior colleges, business colleges or nursing schools, and 27% of the males and 5% of the females continued further training in technical and agricultural institutions. The remaining majority--65% of the males and 48% of the females--found employment, apprenticeship and others, or indicated uncertainty.

As part of the study on the adolescent society in



a cosmopolitan city, Friesen (1969) had findings which uncovered 48 per cent of over 13,000 high school students planning for university education and 24 percent aspiring to technical institutes. He found boys and girls to have very similar plans for higher education, indicating a shift from situations in 1965 when findings showed 49.5 per cent of the boys and 31.4 per cent of the girls planning for college.

The studies reviewed in this section have reflected the educational aspirations and attainments of youth beyond senior high school. Although the figures show discrepancies of college intentions between American and Canadian young adults, they do not seem to differ grossly. As these researchers varied in their definitions of college plans, there was no base for direct comparison. At this stage it is perhaps safe to state that: (a) educational aspirations of youth are much higher than their attainments, (b) there seems to exist similarity between boys and girls in their post-high school options, and (c) a majority of students plan to continue their education after high school graduation.

#### Factors Affecting Post-Secondary Educational Plans

Size of community residence has been the most intensively investigated factor related to educational aspirations of youth. Sewell (1963:4) found in his study based on 10,322 Wisconsin high school seniors that the proportion planning on continuing their education beyond high school was closely related to the size of community





residence. Only 37 per cent of students from farms and 44 per cent of those from villages in comparison with 50 per cent of those from cities planned on further education. Siemens (1965) in his research report observed from studies carried out in the fifties that

... higher educational aspirations among urban as compared with rural youth has been reported from statewide studies in Minnesota, Florida, Wisconsin and Washington. Although these researchers varied somewhat in their definitions of aspiration, their residential categories, and the nature of their sample, all of them reported that the farm group tended to lag well behind the more urban segments of the population in educational aspirations.

Some research studies carried out in the early sixties were observed by Sperry (1967) in the following manner:

... Burchinal found that, generally, lowest levels of educational and occupational aspirations were observed for farm boys and highest levels were observed for metropolitan boys. Similarly, Sewell found that farm boys and girls had the lowest aspirations; village boys and girls had higher aspirations; and urban youth had the highest aspirations. Slocum and Berdie and Hood also reported that a greater percentage of youth from urban areas than from rural areas planned to attend college.

Educational and occupational aspiration levels of youth have also been found related closely to the social status of families. Sperry (1967) stated that Burchinal and Caro and Philbad had findings which indicated that the occupational status aspirations of male high school students from middle and upper classes were significantly higher than those of students from the lower classes. Yoesting and others (1968) concluded from their findings that youth with higher socioeconomic background were more likely to aspire to and attain additional education beyond high school than





those with lower socioeconomic background. In the same study, they also found a relationship between parents' educational attainments and students' educational aspiration attainments.

A research study undertaken by Siemens (1965) on high school-aged youth in Manitoba provided strong support for the findings in the United States. A more recent study by Friesen (1969) indicated a very strong influence of the socioeconomic level on post-high school plans of urban youth in a metropolitan city of Alberta.

In summary, post-high school plans of youth have been found to be closely related to such factors as size and location of community, socioeconomic status, parent's educational attainment and father's occupational status. These findings have also shown some connections between such factors and sex, but have failed to indicate the influence of age within the grade level.

## THEORETICAL FRAMEWORK

### Slocum's Model

In his model, Slocum (1968) views the student as

... a decision-maker who is a member of a number of social systems, some of which are so important that their values and norms influence his preferences and behavior. These reference groups include his family, his friends, and his school.

He conceptualizes further that educational and occupational decisions of a student are influenced by the following factors:



(a) acceptance of particular persons as role models,

(b) overt recognition of his achievements and potential by parents, teachers and other persons who are significant to him,

(c) his self-concept which, in turn, is a product of his experiences and his evaluation of self-esteem,

(d) perceptions of external circumstances such as the occupational opportunity structure and the availability of financial support for education.

### The Getzels Model

Getzels (1957) has constructed a conceptual model of human behavior in institutionalized situations. In the general model, the social system involves two classes of phenomena. First, there is the nomothetic dimension consisting of the institution, role and expectations which will fulfil the goals of the system. Second, there is the idiographic dimension consisting of the individual, personality, and need-dispositions which inhabit the system. The two classes of phenomena give rise to personal and interpersonal conflicts. The personal conflict is a result of the incompatibility between the individual's role expectations and his need-dispositions. The interpersonal conflict, on the other hand, results from a lack of congruence of the selective interpersonal perceptions of individuals who occupy interlocking roles.

In the extended model, a social psychological



transactional dimension is added. This comprises the group, climate and norms which are mediators between the institution and the individual. It permits a consensus to develop about many aspects of the common problems. There emerges a level of expression of intentions which gives rise to meaningful norms for individual behavior and interpersonal relationship.

The theory of social behavior described above may be applied to the interpersonal relationship within a school organization. By the nomothetic dimension, the school system defines roles and expectations for the principal, the staff and the student body. These roles and expectations in turn define the behavior of the persons according to their positions, offices and status. It is expected that the principal, the staff and the students will accept the obligations, responsibilities and patterns of behavior thus defined. By the idiographic dimension, the school system is composed of the personal aspects of the administrator, the staff and the students. Each individual performs the role defined for his position in accordance with the unique style of his own pattern of behavior. The source of this uniqueness is his definite personality which is exemplified by certain need-dispositions.

Finally, by the transactional dimension, the school system provides mediation between the two dimensions. The relationship between the principal, his staff and the student body is a function of the integration of roles and expectations and the personality and need-dispositions of



all these individuals. Such relationships will determine the norms of behavior and the climate shared by the group. From this dimension, there emerges the organizational climate of the school system.

### Theory of Perception

Ittelson and Cantril define perception in terms of their transactional theory in this manner:

Perception is that part of the process of living by which each person, from his own unique personal behavior center, creates for himself, the world in which he has his own life's experiences, and through which he strives to gain his satisfaction. (1954:5)

Perception, then, involves objects, persons, and events which the perceiver believes are external to him and which possess the characteristics he sees in them. The perceptual process is, therefore, influenced by factors in the perceiver himself and factors in the world he experiences.

### An Operational Model

This study is based on the three models described above. The student is viewed as a decision-maker. He makes an educational choice in accordance with his perceptions of the reference groups whose influence is exerted through their relationships with him and their attitudes toward him. Also, as a member of an organization, his educational plan is affected by his perception of the climate of the organization. These sources of influence serve as important factors in a student's course of planning for education at the post-high school level.





7. There is no significant difference in degree of Openness between open and closed climate schools as perceived by students.

8. There is no significant difference in student climate perceptions between open and closed climate schools as measured by mean scores on the subtests of the modified OCDQ.

#### Hypotheses Related to Post-Secondary Educational Plans and School-Associated Variables

9. There is no significant difference in perceptions of the degree of Openness between students having different post-secondary educational plans.

10. There is no significant difference in mean scores on the subtests of the modified OCDQ as perceived by students when grouped according to post-secondary educational plans.

11. There is no significant relationship between post-secondary educational plans and schools when categorized by the type of climate as perceived by students.

12. There is no significant difference in mean satisfaction scores between students in open climate schools categorized by post-secondary educational plans.

13. There is no significant difference in mean satisfaction scores between students in closed climate schools categorized by post-secondary educational plans.

14. There is no significant difference in mean achievement between students in open climate schools



categorized by post-secondary educational plans.

15. There is no significant difference in mean achievement between students in closed climate schools categorized by post-secondary educational plans.

16. There is no significant relationship between post-secondary educational plans and student programs of study.

#### Hypotheses Related to Post-Secondary Educational Plans and Family Variables

17. There is no significant difference in father's level of education between students having different post-secondary educational plans.

18. There is no significant difference in mother's level of education between students having different post-secondary educational plans.

19. There is no significant relationship between post-secondary educational plan and father's occupation.

20. There is no significant difference in parental incomes between students having different post-secondary educational plans.

#### Hypotheses Related to Post-Secondary Educational Plans and Student Personal Variables

21. There is no significant difference in age between students in different post-secondary educational plans.

22. There is no significant relationship between post-secondary educational plan and student sex.



## SUMMARY OF CHAPTER TWO

This chapter reviewed past research on the organizational climate of schools, students' post-secondary educational plans, and factors involved in planning for post-secondary education. To provide a model for this study, a theoretical framework was expounded in detail. Finally, the null hypotheses were presented as a guide to the analysis in later chapters.



## Chapter 3

### RESEARCH DESIGN

This chapter presents descriptions of the instruments used for data collection, procedure of collecting data and an outline of the methodology applied in the study.

### INSTRUMENTATION

Four instruments were used in the collection of the data for this investigation. They were the School Climate Questionnaire developed by Bevan (1970), the Organizational Climate Description Questionnaire developed by Halpin and Croft (1963), the modified version of the OCDQ for students developed by Marsh (1970), and the Student Questionnaire developed for this study.

#### The School Climate Questionnaire

The SCQ consists of fifteen items, each on student behavior concerning rules and regulations. The questionnaire was developed by Bevan (1970), originally comprising 17 items. Two items in the original form were deleted and one item was modified. The adapted form of the SCQ was not tested for validity and reliability because the change was a minor one.

The SCQ was administered to principals and vice principals of all rural public high schools in Alberta offering grade twelve and having twenty or more teachers.





The total score for each school was used to rank it on openness of the climate. Two of the schools with extreme high scores and two of those with extreme low scores were chosen as sample schools. Teachers in these four schools were asked to complete the OCDQ. In like manner, students in the twelfth grade were asked to respond to the modified OCDQ and the Student Questionnaire.

#### The Organizational Climate Description Questionnaire

The OCDQ consists of 64 Likert-type items which were factored into eight subtests. The first four subtests describe the teachers' behavior, namely, Disengagement, Hindrance, Esprit, and Intimacy. The second four subtests deal with the principal's behavior, namely, Aloofness, Production Emphasis, Thrust, and Consideration.

As there were varying numbers of items for these subtests, all items relevant to each subtest were summed and divided by the number of items to obtain the mean. To find the mean for degree of Openness, this formula was used: (Appleberry and Hoy, 1969)

$$\text{Openness} = \text{Esprit} + \text{Thrust} - \text{Disengagement}$$

The means for the eight subtests together with the means for Openness were analyzed.

The reliability of the OCDQ was reported to be quite high. (Halpin, 1966:160-161) In the three factor solution, the high communalities ranging from 0.44 to 0.73 provided lower bound estimates of the reliabilities of the eight subtests.



### The Organizational Climate Description Questionnaire (modified for students)

The sixty-four items in the OCDQ were modified so that the instrument could be used to determine student perceptions of the organizational climate. The first modification and pilot study was done by Marsh (1970) who used the instrument in his investigation of teacher and student perceptions of school climate. A further revision of the instrument was carried out before it was used in this study.

### The Student Questionnaire

The Student Questionnaire consists of three subtests, namely, Post-Secondary Educational Plans, Satisfaction and Personal Information. The one item on the first subtest offers 8 choices which were later grouped into four categories. For later reference, the four groups are outlined as follows:

Plan U: "University"

Plan C: "Junior College and Nurses Training"

Plan T: "NAIT, SAIT and Agricultural College"

Plan O: "Other and None"

The six items on Satisfaction were modified from Bevan's The Student Satisfaction Questionnaire. (1970) The other nine items on Personal Information indicated the student's level of achievement, high school program of study, family information, sex and age.



## METHODOLOGY

### The Population

The study was conducted on all rural high schools in the Province of Alberta, having twenty or more teachers on staff and offering Grade XII. They comprised approximately 80 schools.

### The Sample

On the basis of the responses to the School Climate Questionnaire, a list of schools was obtained in the order of overall openness. Four schools were selected from the list, two having an open climate and the other two a closed climate. To maintain anonymity, the open climate schools were called School A and School B and the closed climate schools were called School C and School D.

### Data Collection and Treatment

1. The cooperation of principals of rural schools in Alberta was requested for the study. The School Climate Questionnaire was simultaneously mailed out to the principals and the vice principals in the spring of 1971.

2. After the responses to the School Climate Questionnaire were obtained and the selection of sample schools was made, the other instruments were mailed out to the principals of the schools selected. They acted as coordinators and were responsible for the return of these questionnaires.



### Treatment of Incomplete Questionnaires

Returned questionnaires were inspected to insure completeness of responses. In the case of the student's Personal Information subtests, responses were accepted in the manner they were originally supplied. As for the Post-Secondary Educational Plan part, those responses without indication of plans were totally discarded.

In the case of the other questionnaires and subtests, some responses were found with 1 to 4 items uncompleted. For these unanswered items, the median response--either 2 or 3 for the OCDQ and the modified OCDQ, and either 3 or 4 for the Satisfaction subtests--was entered.

### Statistical Procedures

This study employed both parametric and nonparametric tests in the analysis of data. Parametric statistical methods used were one-way analysis of variance and Scheffe's procedure for multiple comparison of means. Nonparametric statistical methods included the Kruskal-Wallis analysis of variance and chi square test of the contingency coefficient.

One-way analysis of variance tested the assumption of homogeneity of variance as well as significance of the F ratio for difference in criterion means. The measurement of most variables in this study was assumed to be an interval scale. And on large samples--twenty or more individuals--normality of distribution was assumed.





Under these circumstances the assumptions underlying one-way analysis of variance were established.

The Scheffe multiple comparison of means following an F test was applied when the probability of the F ratio was smaller than .05. The method was selected in preference to the Newman-Keuls procedure because it was easier to apply and was not seriously affected by violations of the assumptions described above. (Ferguson, 1966:297) The .10 level was tentatively used as suggested by the same author.

When violations of the assumptions of normality and homogeneity of variance were gross, the Kruskal-Wallis H test was used. As each N was larger than 5, the sampling distribution of this statistic was approximated by a chi square distribution. (Winer, 1962:622)

In dealing with problems of association between variables, the chi square test was applied. This was essentially the test for significance of the contingency coefficient. The test was deemed necessary because the variables were in nominal measurement.

#### Levels of Significance

The .05 level of confidence was established for rejection of the null hypotheses in most cases, for a 5% level of Type I error (rejection of a true hypothesis) did not seem to be a great risk. An exception was in the case



of testing variance homogeneity in which the .01 level was sometimes chosen, for a 99% level of Type II error (acceptance of a false hypothesis) did not seem too risky. Another exception was when the Scheffe method was applied. As mentioned earlier, the researcher considered the .10 level appropriate for this test.

### SUMMARY OF CHAPTER THREE

Four instruments were used to collect the data for this study. They were the School Climate Questionnaire, the OCDQ, the modified OCDQ, and the Student Questionnaire.

The Sample was limited to four schools in rural Alberta, having twenty or more teachers on staff and some twelfth grade students. The schools were selected on the basis of overall climate of openness.

Data collection and treatment of incomplete responses were explained in detail.

The statistical techniques applied in the analysis of data were discussed. They included the one-way analysis of variance, the Scheffe procedure, the Kruskal-Wallis test, and the chi square test. Attention was given to how the assumptions underlying these tests were established.



## Chapter 4

### DESCRIPTION OF THE SAMPLE

The purpose of this chapter is to provide a more complete description of the sample based on the data obtained. Of the 80 rural schools in Alberta to which the questionnaires were mailed, 42 schools responded. A list of these schools was compiled in a ranking order according to the total scores. School A and School B were among those placed on the top of the list, whereas School C and School D appeared on the bottom.

Four teacher samples were staff members of the four schools described above. There were 97 teachers altogether who responded to the OCDQ. Of these teachers, 18 were from School A, 27 from School B, 23 from School C, and 29 from School D.

Similarly, four student samples were twelfth grade students in these four schools. Of a total number of 167 students who responded, 69 came from School A, 47 from School B, 34 from School C, and 17 from School D.

### THE TEACHERS

The numbers of teachers from the four schools, who responded to the OCDQ, were not markedly different from one another. Table 1 shows the distribution by schools. About 18 percent were respondents from School A, 28 percent from School B, 24 percent from school C, and 30 percent from



TABLE 1  
DISTRIBUTION OF THE TEACHERS BY SCHOOLS

School	Number of teachers	Percent
A	18	18.56
B	27	27.83
C	23	23.71
D	29	29.90
Total	97	100.00





School D. When grouped according to organizational climate as described earlier in this chapter, Schools A-B constituted about 46 per cent of the teacher sample while Schools C-D constituted almost 54 per cent of the total teachers. In other words, teacher respondents from open climate and closed climate schools did not differ grossly in number.

### THE STUDENTS

Table 2 shows the distribution of students by schools and by post-secondary educational plans. Of the total student respondents, about 41 per cent were from School A, 28 per cent from School B, nearly 21 per cent from School C, and 10 per cent from School D. Respondents from open climate schools numbered about twice as many as those closed climate schools.

In terms of post-high school plans, about one-fifth of the students indicated Plan U "University". Nearly another one-fifth aspired to Plan C "Junior College and Nurses Training". Approximately one-third had Plan T "NAIT, SAIT, and Agricultural College". A little over one-quarter of these students intended to take Plan O "Other and None".

The distribution of student programs of study is shown in Table 3. The highest percentage of students (almost 74 per cent) took the Matriculation program. This seems to be common in rural schools in this province. It is interesting to note that no respondents from School B and



TABLE 2

DISTRIBUTION OF STUDENTS  
BY POST-SECONDARY EDUCATIONAL PLANS

Post-Secondary Educational Plan	School A	School B	School C	School D	Total	Percent
U. University	12	9	11	2	34	20.36
C. Junior College and Nurses Training	10	12	6	3	31	18.56
T. NAIT, SALT, and Agricultural College	31	12	8	5	56	33.53
O. Other and None	16	14	9	7	46	27.55
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



TABLE 3

DISTRIBUTION OF STUDENTS  
BY SCHOOLS AND PROGRAMS OF STUDY

Program of Study	School A	School B	School C	School D	Total	Percent
Matriculation	45	40	28	10	123	73.65
General	21	5	3	3	32	19.16
Vocational-Technical	2		2		4	2.40
Business	1	2	3	2	8	4.79
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



School D were registered in the Vocational-Technical program, and that only one respondent from School A was taking the Business Education program. Finally, it was observed that the percentage of Vocational-Technical and Business Education students was extremely low when compared with Matriculation and General programs students. Only 7 per cent total were from the former group.

The distribution of student sex as shown in Table 4 illustrated a nearly even proportion. As is seen, the male students composed 43 per cent of the sample and the female students amounted to 57 per cent.

Table 5 illustrates the distribution of students by age. The modal age was seen to be 17 years in all schools except School D in which the mode appeared to be one year below. In every school there were quite few students who were 16 years or younger and who were 19 years or older. Only about two per cent indicated their age above 19 years.

Table 6 displays student achievement on the last report card for English and social studies courses combined. Few students earned an average A or D and only one per cent obtained an average F. About 36 per cent reported an average B and almost 43 per cent reported a C average.

The distribution of students by father's level of education is displayed in Table 7. Almost half (49%) reported their father having had some high school education, one-fifth having had elementary education, and 13





TABLE 4  
DISTRIBUTION OF STUDENTS BY SCHOOLS AND SEX

Sex	School A	School B	School C	School D	Total	Percent
Male	30	25	11	6	72	43.11
Female	39	22	23	11	95	56.89
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



TABLE 5

## DISTRIBUTION OF STUDENTS BY AGE

Age	School A	School B	School C	School D	Total	Percent
16 years and under	3	7	3		13	7.78
17 years	36	31	20	6	93	55.68
18 years	24	5	9	8	46	27.55
19 years	4	2	2	2	10	5.99
20 years and over	2	1		1	4	2.39
No Response		1			1	.60
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



TABLE 6

DISTRIBUTION OF STUDENTS  
BY SCHOOLS AND ACHIEVEMENT

Average Grade	School A	School B	School C	School D	Total	Percent
A (80-100%)	3	4	2		9	5.39
B (65-79%)	26	19	10	5	60	35.91
C (50-64%)	33	20	14	4	71	42.52
D (40-49%)	6	3	6	7	22	13.18
F ( 0-39%)		1		1	2	1.20
No Response	1		2		3	1.80
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



TABLE 7  
DISTRIBUTION OF STUDENTS  
BY SCHOOLS AND BY FATHER'S LEVELS OF EDUCATION

Father's Level of Education	School A	School B	School C	School D	Total	Percent
Elementary	8	11	9	6	34	20.36
Some High School	36	24	13	9	82	49.10
High School Graduate	10	4	6	2	22	13.17
Some University	9	4	1		14	8.39
University	3	3	2		8	4.79
No Response	3	1	3		7	4.19
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00





per cent having completed high school. Another 13 per cent of students indicated that their fathers had gone into post-secondary education, about half of whom had completed a degree.

Table 8 shows how the mother's level of education was distributed. Tables 7 and 8 reveal that the percentages in the first three corresponding levels were almost identical. The percentage in the "University Graduate" group seemed to be nearly twice as much for the mother as for the father.

Table 9 illustrates how students were distributed on parental income. With an exception of the "Less than \$4,000" and "\$12,000-13,999" groups, they seemed to be distributed evenly over the entire range. "No response" category had quite a high percentage (almost 10 per cent).

The variable "Father's Occupation" was categorized into Farming and Non-Farming. Table 10 shows almost equal percentages of gross frequencies between the two categories (46% and 48%). The contingency table cells indicate that the percentage of Farming was markedly higher than that of Non-Farming in School B. The opposite case was true in School A and School D, as the latter had only one respondent from a farm family.

The student satisfaction score was tentatively broken down into six classes. Class frequencies summed over the four schools, as shown in Table 11, illustrated that the distribution was skewed--with lower frequencies for lower



TABLE 8

DISTRIBUTION OF STUDENTS  
BY SCHOOLS AND BY MOTHER'S LEVELS OF EDUCATION

Mother's Level of Education	School A	School B	School C	School D	Total	Percent
Elementary	7	12	11	2	32	19.16
Some High School	40	22	12	11	10	50.30
High School Graduate	10	7	4	3	24	14.37
Some University	3	2	5	1	11	6.59
University Graduate	8	3	2	1	14	8.38
No Response	1	1			2	1.20
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



TABLE 9

## DISTRIBUTION OF STUDENTS BY PARENTAL INCOME

Parental Income	School A	School B	School C	School D	Total	Percent
Less than \$4,000	7	3	3		13	7.78
\$4,000-5,999	10	10	7	4	31	18.56
\$6,000-7,999	8	9	7	4	28	16.77
\$8,000-9,999	11	9	3	2	25	14.97
\$10,000-11,999	9	8	7	4	28	16.77
\$12,000-13,999	5	3			8	4.79
\$14,000 and over	10	4	3	1	18	10.78
No Response	9	1	4	2	16	9.58
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



TABLE 10

## DISTRIBUTION OF STUDENTS BY FATHER'S OCCUPATION

Father's Occupation	School A	School B	School C	School D	Total	Percent
Farming	28	29	19	1	77	46.11
Non-Farming	37	15	14	15	81	48.50
No Response	4	3	1	1	9	5.39
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00





TABLE 11  
DISTRIBUTION OF STUDENTS BY SATISFACTION SCORE

Satisfaction Score	School A	School B	School C	School D	Total	Percent
5.25-6.00	3	18	9	1	31	18.56
4.75-5.24	20	18	12	2	52	31.14
4.25-4.74	28	8	8	7	51	30.54
3.75-4.24	12	3	4	2	21	12.58
3.25-3.74	3		1	3	7	4.19
1.00-3.24	3			2	5	2.99
Total	69	47	34	17	167	
Percent	41.32	28.14	20.36	10.18		100.00



scores. When taking 4.25 as a cutting point, 80 per cent of the students showed high satisfaction where as 20 per cent indicated low satisfaction.

#### SUMMARY OF CHAPTER FOUR

The purpose of this chapter is to provide a more complete description of data obtained from sample schools. Such a description is presented so that the reader may find comparisons between schools and between other categories. The teacher sample is described as frequencies and percentages in the four schools. The student data are tabulated so that frequencies and percentages are shown on the bases of schools and several other types of information. Briefly, the tables fall into three classifications--the first being based on school-related information, the second on family background information, and the third on personal variables.



## Chapter 5

### ANALYSIS OF DATA

#### TEACHER AND STUDENT PERCEPTIONS OF CLIMATE

This chapter presents an analysis of data pertaining to teacher and student perceptions of the organizational climate of the school. The hypotheses formulated to serve as a guide fall into two groups.

The first group--hypotheses one to four--are related to teacher perceptions of the degree of Openness and climate subtests as measured by the OCDQ.

The second group--hypotheses five to eight--look at student perceptions of the degree of Openness and climate subtests as measured by the modified version of the OCDQ.

From the results of these analyses, attempts will be made to determine whether or not congruence of teacher and student perceptions of school climate is evident.

#### TESTING THE HYPOTHESES

Hypothesis one. The first hypothesis states that there is no significant difference in degree of Openness between Schools A, B, C and D as perceived by teachers. One-way analysis of variance showed that the difference was significant at the .05 level. The null hypothesis was therefore rejected, as shown in Table 12.

The Scheffe multiple comparison of means, shown in Table 13, indicated that School B was significantly differ-



TABLE 12

ANALYSIS OF VARIANCE OF DEGREE OF OPENNESS  
AS PERCEIVED BY TEACHERS BETWEEN SCHOOLS

School	N	Mean	Homogeneity of Variance Probability
A	18	3.78	.923 (Yes)
B	27	3.99	
C	23	3.07	
D	29	3.58	
F = 3.28		df = (3,93)	p = .024

TABLE 13

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

School	A	B	C	D
A	1.000	.941	.236	.816
B		1.000	.036*	.360
C			1.000	.639
Summary of Significant Difference			<u>B</u> <u>A</u> <u>D</u> <u>C</u>	

\*Significant at .10 level.





ent from School C in mean Openness score. There was no difference between other pairs of schools in this mean score.

Hypothesis two. The second hypothesis states that there is no significant difference in teacher climate perceptions between Schools A, B, C, and D as measured by mean scores on the subtests of the OCDQ. As can be seen from Table 14, significant differences were found between means for Disengagement, Esprit, Production Emphasis and Thrust at .05 level. The second hypothesis was therefore rejected for these four subtests.

The Scheffe multiple comparison of means in Table 15 showed that there was a significant difference of mean Disengagement scores between Schools A, C and Schools B, D; that there was a significant difference of mean Esprit scores between School B and School C; that there was a significant difference of mean Production Emphasis scores between Schools A, B and School C; and that there was a significant difference in mean Thrust scores between School A and School D. The comparison indicated that School A and School B were rated high on the two positive factors-- Esprit and Thrust. School B was rated low on a negative factor Disengagement, whereas School A was rated high on this factor.

Hypothesis three. This hypothesis states that there is no significant difference in degree of Openness between Schools A, B and Schools C, D as perceived by



TABLE 14

ANALYSIS OF VARIANCE OF TEACHER PERCEPTIONS  
OF CLIMATE BETWEEN SCHOOLS

OCDQ Subtest	Rejection of Null Hypothesis	Levels of Significance
Disengagement	Yes	.003
Hindrance	No	.230
Esprit	Yes	.019
Intimacy	No	.557
Aloofness	No	.084
Production Emphasis	Yes	.004
Thrust	Yes	.004
Consideration	No	.878

TABLE 15

SCHEFFE MULTIPLE COMPARISON OF MEANS

OCDQ Subtest	Truncated School Means
Disengagement	A — C      D — B
Esprit	B — A — D — C
Production Emphasis	A — B — D — C
Thrust	A — B — C — D



teachers. Analysis of variance as shown in Table 16 could establish the assumption of homogeneity of variance. An F ratio of 7.74 having a probability of .007 provided ground for rejection of the null hypothesis. Schools A and B were proved to be significantly more open than Schools C and D.

Hypothesis four. This hypothesis states that there is no significant difference in teacher climate perceptions between Schools A, B and Schools C, D as measured by mean scores on the subtests of the OCDQ. In Table 17, the null hypothesis was rejected at the .05 level or lower for Hindrance, Esprit, Production Emphasis and Thrust.

Hypothesis five. This hypothesis states that there is no significant difference in the degree of Openness between Schools A, B, C and D as perceived by students. The null hypothesis was rejected at .01 level as shown in Table 18. The Scheffe multiple comparison of means in Table 19 showed a significant difference between the means of School B, School A, and Schools C, D. There was no difference between School C and School D.

Hypothesis six. This hypothesis states that there is no significant difference in student climate perceptions between the four schools as measured by mean scores on the subtests of the modified OCDQ. Table 20 shows that the null hypotheses for all subtests could be rejected at .04 level and lower. The Scheffe multiple comparison of means in Table 21 indicated the significant



TABLE 16

ANALYSIS OF VARIANCE OF DEGREE OF OPENNESS  
AS PERCEIVED BY TEACHERS  
BETWEEN SCHOOLS A-B AND SCHOOLS C-D

School	N	Mean	Homogeneity of Variance Probability
A-B	45	3.91	.574 (Yes)
C-D	52	3.29	
F = 7.74		df = (1,95)	p = .007

TABLE 17

ANALYSIS OF VARIANCE OF TEACHER PERCEPTIONS  
OF CLIMATE BETWEEN SCHOOLS A-B AND SCHOOLS C-D

OCDQ Subtest	Rejection of Null Hypothesis	Level of Significance
Disengagement	No	.942
Hindrance	Yes	.045
Esprit	Yes	.036
Intimacy	No	.651
Aloofness	No	.106
Production Emphasis	Yes	.001
Thrust	Yes	.001
Consideration	No	.703





TABLE 18

ANALYSIS OF VARIANCE OF DEGREE OF OPENNESS  
AS PERCEIVED BY STUDENTS BETWEEN SCHOOLS

School	N	Mean	Homogeneity of Variance Probability
A	69	2.46	.584 (Yes)
B	47	3.74	
C	34	1.90	
D	17	1.83	
F = 37.72		df = (3,163)	p = .000

TABLE 19

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

School	A	B	C	D
A	1.000	.000*	.079*	.030*
B		1.000	.000*	.000*
C			1.000	.995
Summary of Significant Difference: <u>B</u> <u>A</u> <u>C</u> <u>D</u>				

\*Significant at .10 level.



TABLE 20

ANALYSIS OF VARIANCE OF STUDENT PERCEPTIONS  
OF CLIMATE BETWEEN SCHOOLS

OCDQ Subtest	Rejection of Null Hypothesis	Level of Significance
Disengagement	Yes	.000
Hindrance	Yes	.000
Esprit	Yes	.000
Intimacy	Yes	.039
Aloofness	Yes	.002
Production Emphasis	Yes	.001
Thrust	Yes	.000
Consideration	Yes	.000



TABLE 21

## SCHEFFE MULTIPLE COMPARISON OF MEANS

OCDQ Subtest	Truncated School Means
Disengagement	<u>C</u> <u>D</u> — <u>A</u> <u>B</u>
Hindrance	<u>D</u> <u>A</u> <u>C</u> <u>B</u>
Esprit	<u>B</u> <u>A</u> <u>C</u> <u>D</u>
Intimacy	<u>B</u> <u>D</u> — <u>C</u> <u>A</u>
Aloofness	<u>D</u> <u>A</u> <u>C</u> — <u>B</u>
Production Emphasis	<u>D</u> <u>A</u> <u>C</u> <u>B</u>
Thrust	<u>B</u> <u>A</u> <u>C</u> <u>D</u>
Consideration	<u>B</u> <u>A</u> <u>D</u> — <u>C</u>



difference between some pairs of means for each subtest.

As an example, there was a significant difference between School B and Schools C, D in the student perceptions of Disengagement. Similarly, there existed significant difference in Disengagement between School A and School B.

Hypothesis seven. This hypothesis states that there is no significant difference in degree of Openness between Schools A,B and Schools C,D as perceived by students. One-way analysis of variance in Table 22 yielded a probability of .0104 to marginally meet an assumption of variance homogeneity at .01 level. An F ratio of 40.92 was overwhelmingly large to reject the null hypothesis lower than a .001 level. Thus, Schools A,B had a significantly more open climate than Schools C,D.

Hypothesis eight. This hypothesis states that there is no significant difference in student climate perceptions between Schools A,B and Schools C,D as measured by mean scores on the subtests of the modified OCDQ. Table 23 reveals that significant difference between school means was found for Disengagement, Hindrance, Esprit, Thrust and Consideration.





TABLE 22

ANALYSIS OF VARIANCE OF DEGREE OF OPENNESS  
AS PERCEIVED BY STUDENTS  
BETWEEN SCHOOLS A-B AND SCHOOLS C-D

School	N	Mean	Homogeneity of Variance Probability
A-B	116	2.98	.0104 (Yes)
C-D	51	1.88	
F = 40.92		df = (1,165)	p = .000

TABLE 23

ANALYSIS OF VARIANCE OF STUDENT PERCEPTIONS  
OF CLIMATE BETWEEN SCHOOLS A-B AND SCHOOLS C-D

OCDQ Subtest	Rejection of Null Hypothesis	Level of Significance
Disengagement	Yes	.000
Hindrance	Yes	.020
Esprit	Yes	.000
Intimacy	No	.403
Alcufness	No	.864
Production Emphasis	No	.112
Thrust	Yes	.000
Consideration	Yes	.000



## SUMMARY OF CHAPTER FIVE

Eight null hypotheses were tested. Five of these were fully rejected, and three were rejected in part. One-way analysis of variance and the Scheffe procedure for multiple comparison of means were applied to these hypotheses. In one case, the assumption of homogeneity of variance was barely met at the .01 level. In another case, this assumption was met at the .02 level. In all other cases it was met at the .05 level. In applying the Scheffe method, the .10 level was chosen. (Ferguson, 1966:297)

The findings in this chapter indicated that Schools A-B were significantly more open than Schools C-D on the organizational climate. Such was the case for both teacher and student perceptions which were examined independently. There was evidence that administrators, teachers and students all perceived Schools A-B as having an open climate and Schools C-D as having a closed climate.

Table 24 summarizes the findings on teacher and student perceptions of the organizational climate. Teachers and students showed similarity in their perceptions of Hindrance, Esprit, Intimacy, Aloofness, Thrust, and Openness. They disagreed on their perceptions of Disengagement, Production Emphasis, and Consideration. As there was evidence of more agreement than disagreement, it could be stated with a fairly high degree of confidence that there existed congruence of climate perceptions between teachers and students.



TABLE 24

SUMMARY OF ANALYSES OF VARIANCE  
OF TEACHER AND STUDENT PERCEPTIONS OF SCHOOL CLIMATE  
BETWEEN SCHOOLS A-B AND SCHOOLS C-D

OCDQ Subtest	Rejection of $H_0$		Congruence
	Teachers	Students	
Disengagement	No	Yes	
Hindrance	Yes	Yes	x
Esprit	Yes	Yes	x
Intimacy	No	No	x
Aloofness	No	No	x
Production Emphasis	Yes	No	
Thrust	Yes	Yes	x
Consideration	No	Yes	
Degree of Openness	Yes	Yes	x



## Chapter 6

### ANALYSIS OF DATA

#### POST-SECONDARY EDUCATIONAL PLANS AND SELECTED VARIABLES

This chapter carries further the analysis of data with respect to post-secondary educational plans and other variables. There are essentially three groups of hypotheses to guide the analysis.

The first group, hypotheses nine to sixteen, deals with the relationship between students' post-secondary educational plans and school-related variables. These variables include the organizational climate of schools, student satisfaction, student achievement, and high school programs of study.

The second group, hypotheses seventeen to twenty, are directly related to family variables. These variables include father's level of education, mother's level of education, father's occupation, and parental income.

The last group, hypotheses twenty-one and twenty-two, look at the student personal variables which include age and sex.

#### TESTING THE HYPOTHESES

Hypothesis nine. This hypothesis states that there is no significant difference in perceptions of the degree of Openness between students with different post-secondary educational plans. One-way analysis of variance,





as shown in Table 25, resulted in an F of 0.95. This F ratio has a probability of .930 which does not provide evidence for rejection. Therefore, hypothesis nine was accepted. Post-secondary choices of students appeared unrelated to the climate of openness in the schools.

Hypothesis ten. This hypothesis states that there is no significant difference in mean scores on the subtests of the modified OCDQ as perceived by students when grouped according to post-secondary educational plans. Table 26 on one-way analysis of variance shows probabilities of .170 and greater for significance of F ratios. The null hypotheses for all subtests of the modified OCDQ were accepted. There were not enough grounds to state that there were significant differences in the mean scores of these subtests.

Hypothesis eleven. This hypothesis states that there is no significant relationship between post-secondary educational plans and schools when categorized by the type of climate. A chi square test of association for significance as shown in Table 27 gives a value of 2.789 with 3 degrees of freedom. The probability of this value is greater than .30 and the null hypothesis cannot be rejected. The relationship between post-secondary educational plans and climate type of school was not significant.



TABLE 25

ANALYSIS OF VARIANCE OF DEGREE OF OPENNESS  
BY POST-SECONDARY EDUCATIONAL PLANS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	34	2.55	.447 (Yes)
C. Junior College and Nurses Training	31	2.67	
T. NAIT, SAIT and Agricultural College	56	2.71	
O. Other and None	46	2.61	
<hr/>			
F = .95	df = (3, 163)		p = .930



TABLE 26

ANALYSIS OF VARIANCE OF STUDENT PERCEPTIONS  
OF CLIMATE DIMENSIONS  
BY POST-SECONDARY EDUCATIONAL PLANS

OCDQ Subtest	Rejection of Null Hypothesis	Level of Significance
Disengagement	No	.247
Hindrance	No	.813
Esprit	No	.664
Intimacy	No	.660
Aloofness	No	.324
Production Emphasis	No	.771
Thrust	No	.409
Consideration	No	.170



TABLE 27

CHI SQUARE TEST  
BETWEEN POST-SECONDARY EDUCATIONAL PLAN  
AND CLIMATE TYPE OF SCHOOL

Post-Secondary Educational Plan	Open-Climate School	Closed-Climate School	Total
U. University	21	13	34
C. Junior College and Nurses Training	22	9	31
T. NAIT, SAIT, and Agricultural College	43	13	56
O. Other and None	30	16	46
Total	116	51	167

Chi Square = 2.789

Degrees of Freedom = 3

.50 > Probability > .30 (Not significant)





Hypothesis twelve. This hypothesis states that there is no significant difference in mean satisfaction scores between students grouped by post-secondary educational plans in open-climate schools. One-way analysis of variance as in Table 28 could establish homogeneity of variance at the .01 level but not at the .05 level. Although a probability of .068 is normally sufficient for acceptance of the null hypothesis, a Scheffe test was run. Table 29 shows that the student satisfaction mean score for Plan C "Junior College and Nurses Training" differed significantly from that for Plan O "Other and None". There was no significant difference between other pairs of means.

Hypothesis thirteen. This hypothesis states that there is no significant difference in mean satisfaction scores between students in different post-secondary educational plans in closed-climate schools. The Kruskal-Wallis analysis of variance was applied because the number of observations in each group was small. Table 30 shows that the value of  $H = .677$  has a probability greater than .80 and the null hypothesis cannot be rejected. There was no significant difference in mean satisfaction scores of students grouped by post-secondary educational plans in closed-climate schools.

Hypothesis fourteen. This hypothesis states that there is no significant difference in mean achievement of students grouped by post-secondary educational plans in open



TABLE 28

ANALYSIS OF VARIANCE OF SATISFACTION SCORE  
OF STUDENTS GROUPED BY POST-SECONDARY OPTIONS  
IN OPEN CLIMATE SCHOOLS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	21	4.79	.016 (Yes)
C. Junior College and Nurses Training	21	4.94	
T. NAIT, SAIT, and Agricultural College	43	4.69	
O. Other and None	30	4.50	
<hr/>			
F = 2.44	df = (3,111)		p = .068

TABLE 29

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

Post-Secondary Educational Plan	U	C	T	O
U	1.000	.876	.945	.409
C		1.000	.482	.085*
T			1.000	.608
Summary of Significant Difference:				<u>C</u> <u>U</u> <u>T</u> <u>O</u>

\*Significant at .10 level.



TABLE 30

KRUSKAL-WALLIS TEST OF DIFFERENCE IN SATISFACTION  
 BETWEEN STUDENTS GROUPED BY POST-SECONDARY OPTIONS  
 IN CLOSED CLIMATE SCHOOLS

Post-Secondary Educational Plan	N	Sum of Ranks	Sum of Ranks / N	Rank
U. University	13	369.00	28.38	1
C. Junior College and Nurses Training	9	227.00	25.22	3
T. NAIT, SAIT, and Agricultural College	13	346.00	26.62	2
O. Other and None	16	384.00	24.00	4
H = 0.677	df = 3	p > .80		



climate schools. An analysis of variance of achievement scores in English and social studies in Schools A-B indicated that homogeneity of variance was established with a probability of .424, and that the null hypothesis was rejected for difference in achievement scores. Table 31 shows a mean achievement score of 2.90 for Plan U, 2.71 for Plan C, 2.23 for Plan T, and 2.13 for Plan O. The Scheffe method of comparison of means was applied further. Table 32 points out significant differences in mean achievement scores between these pairs: Plans U-C and Plans T-O, and Plan T and Plan O. There was no significant difference in mean achievement scores between Plan U and Plan C.

Hypothesis fifteen. This hypothesis states that there is no significant difference in mean achievement scores of students classified by post-secondary educational plans in closed climate schools. As set forth in Table 33, the Kruskal-Wallis one-way analysis of variance by ranks gave the value of  $H = 7.476$ . The probability of this value was greater than .05, therefore, the null hypothesis was accepted. Student post-secondary educational plans in closed climate schools had no relationship with student achievement.

Hypothesis sixteen. This hypothesis states that there is no significant relationship between post-secondary educational plans and student programs of study. To test this hypothesis, a contingency table was set up for the two variables. Plan U "University" was not included in the





TABLE 31

ANALYSIS OF VARIANCE OF ACHIEVEMENT  
OF STUDENTS GROUPED BY POST-SECONDARY OPTIONS  
IN OPEN CLIMATE SCHOOLS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	21	2.90	.424 (Yes)
C. Junior College and Nurses Training	21	2.71	
T. NAIT, SAIT, and Agricultural College	43	2.23	
O. Other and None	30	2.13	
<hr/>			
F = 7.19	df = (3,111)		p = .000

TABLE 32

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

Post-Secondary Educational Plan	U	C	T	O
U	1.000	.858	.007*	.003*
C		1.000	.093*	.044*
T			1.000	.950
<hr/>				
Summary of Significant Difference:			<u>U</u> <u>C</u>	<u>I</u> <u>O</u>

\*Significant at .10 level.



TABLE 33

KRUSKAL-WALLIS TEST OF DIFFERENCES IN ACHIEVEMENT  
BETWEEN STUDENTS GROUPED BY POST-SECONDARY OPTIONS  
IN CLOSED CLIMATE SCHOOLS

Post-Secondary Educational Plan	N	Sum of Ranks	Sum of Ranks / N	Rank
U. University	13	221.50	17.12	1
C. Junior College and Nurses Training	9	245.00	27.22	2
T. NAIT, SAIT, and Agricultural College	13	363.00	27.92	3
O. Other and None	16	496.50	31.03	4
H = 7.476		df = 3	p > .05	



table because it was always associated with a matriculation program. Table 34 shows a chi square of 11.977 with a probability smaller than .01, a significant level for rejection of the null hypothesis. An inspection of the contingency table indicated that students who planned on "Junior College and Nurses Training" came more from the matriculation program than from the others. Similarly, more students from the matriculation program than the others had indicated "Other or None". Among the matriculation students there was no difference in their plan. Among other students a greater proportion planned on "NAIT, SAIT and Agricultural College".

Hypothesis seventeen. This hypothesis states that there is no significant difference in father's level of education between students as categorized by post-secondary educational plans. An analysis of variance as shown in Table 35 resulted in a probability of .000 for homogeneity of variance. This means that the assumption of homogeneity of variance was violated and the parametric test of significant difference between means could not be proceeded further.

The Kruskal-Wallis test was then applied to the hypothesis. An H value of 7.856 for 3 degrees of freedom had a probability smaller than .05. This led to rejection of the null hypothesis. An inspection of the rank indicated that the mean father's level of education for Plan U was significantly greater than the mean for the other plans. The analysis is shown in Table 36.



TABLE 34

CHI SQUARE TEST  
BETWEEN POST-SECONDARY EDUCATIONAL PLAN  
AND PROGRAM OF STUDY

Post-Secondary Educational Plan	Program of Study		Total
	Matriculation	Other	
C. Junior College and Nurses Training	27	4	31
T. NAIT, SAIT, and Agricultural College	29	27	56
O. Other and None	33	13	46
Total	89	44	133

Chi Square = 11.977

Degrees of Freedom = 3

.01 > probability > .001 (Significant)





TABLE 35

ANALYSIS OF VARIANCE OF FATHER'S LEVEL OF EDUCATION  
BY POST-SECONDARY EDUCATIONAL PLANS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	34	2.79	.000 (No)
C. Junior College and Nurses Training	30	2.07	
T. NAIT, SAIT, and Agricultural College	52	2.10	
O. Other and None	44	2.14	
<hr/>			
F = 4.15	df = (3,156)		p = .007



TABLE 36

KRUSKAL-WALLIS TEST OF DIFFERENCE  
IN FATHER'S LEVEL OF EDUCATION  
BETWEEN STUDENTS GROUPED BY POST-SECONDARY OPTIONS

Post-Secondary Educational Plan	N	Sum of Ranks	Sum of Ranks / N	Rank
U. University	34	3350.00	98.53	1
C. Junior College and Nurses Training	30	2225.00	74.17	4
T. NAIT, SAIT, and Agricultural College	52	4035.00	77.59	2
O. Other and None	44	3270.00	74.32	3
<hr/>				
H = 7.856	df = 3	p < .05		



Hypothesis eighteen. This hypothesis states that there is no significant difference in mother's level of education between students in different post-secondary educational plans. One-way analysis of variance was applied to the data. In Table 37, a probability of .011 established homogeneity of variance at the .01 level. As the Scheffe procedure is not seriously affected when the assumption of homogeneity of variance is violated, a multiple comparison of means was proceeded by the method on the ground of a .001 probability for an  $F = 5.95$ . The probability matrix in Table 38 shows significant difference in means between these plans: (1) Plans U-C and Plan T, (2) Plans U-C and Plan O, and (3) Plan T and Plan O. There was no significant difference between Plan U and Plan C.

Hypothesis nineteen. This hypothesis states that there is no significant relationship between post-secondary educational plan and father's occupation. A chi square value of 5.548 was derived for a test of association as shown in Table 39. Since this value had a probability greater than .10, the null hypothesis was not rejected. Post-secondary educational plans of students in these schools had no significant relationship with father's occupations when grouped as farming and non-farming.

Hypothesis twenty. This hypothesis states that there is no significant difference in parental incomes between students classified by post-secondary educational



TABLE 37

ANALYSIS OF VARIANCE OF MOTHER'S LEVEL OF EDUCATION  
BY POST-SECONDARY EDUCATIONAL PLANS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	34	2.88	.011 (Yes)
C. Junior College and Nurses Training	31	2.61	
T. NAIT, SAIT, and Agricultural College	55	2.16	
O. Other and None	45	1.96	
<hr/>			
F = 5.95	df = (3,161)		p = .001

TABLE 38

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

Post-Secondary Educational Plan	U	C	T	O
U	1.000	.797	.027*	.003*
C		1.000	.330	.081*
T			1.000	.819
<hr/>				
Summary of Significant Difference:			<u>U</u>	<u>C</u> <u>T</u> <u>O</u>

\*Significant at .10 level.





TABLE 39

CHI SQUARE TEST  
BETWEEN POST-SECONDARY EDUCATIONAL PLAN  
AND FATHER'S OCCUPATION

Post-Secondary Educational Plan	Father's Occupation		Total
	Farming	Non-Farming	
U. University	14	18	32
C. Junior College and Nurses Training	17	13	30
T. NAIT, SAIT, and Agricultural College	20	32	52
O. Other and None	27	18	45
Total	78	81	159

Chi Square = 5.548

Degrees of Freedom = 3

.20 > Probability > .10 (Not significant)



plans. In Table 40, homogeneity of variance was established with a probability of .166. An F ratio of 5.79 was enough ground for rejection of the null hypothesis at well beyond the .01 level. A further investigation was carried out by Scheffe's multiple comparison of means, as in Table 41. Significant difference at .10 level was found between Plans U-C-T and Plan O. Table 41 shows that students who had other plans or no plans seemed to come from families with significantly lower incomes than students who aspired to university and other post-secondary institutions.

Hypothesis twenty-one. This hypothesis states that there is no significant difference in age between students in different post-secondary educational plans. Table 42 shows a probability of .030 for a test of homogeneity of variance. A probability of .043 for an F test provided ground for rejection of the null hypothesis. Scheffe's test was used for investigation of difference between all possible pairs of means. In Table 43, significant difference was not found. The null hypothesis was then accepted.

Hypothesis twenty-two. This hypothesis states that there is no significant relationship between post-secondary educational plan and student sex. A chi square test in Table 44 shows a value of 15.672 for 3 degrees of freedom. A low probability, between .001 and .01, indicated that the association between the two variables was significant. The



TABLE 40

ANALYSIS OF VARIANCE OF PARENTAL INCOME  
BY POST-SECONDARY EDUCATIONAL PLANS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	31	4.39	.166 (Yes)
C. Junior College and Nurses Training	29	3.59	
T. NAIT, SAIT, and Agricultural College	50	4.24	
O. Other and None	41	2.95	
<hr/>			
F = 5.79	df = (3,147)		p = .001

TABLE 41

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

Post-Secondary Educational Plan	U	C	T	O
U	1.000	.357	.987	.008*
C		1.000	.450	.510
T			1.000	.007*
Summary of Significant Difference:				<u>U</u> <u>T</u> <u>C</u> <u>O</u>

\* Significant at .10 level.



TABLE 42

ANALYSIS OF VARIANCE OF STUDENT AGES  
BY POST-SECONDARY EDUCATIONAL PLANS

Post-Secondary Educational Plan	N	Mean	Homogeneity of Variance Probability
U. University	34	3.15	.030 (Yes)
C. Junior College and Nurses Training	31	3.19	
T. NAIT, SAIT, and Agricultural College	56	3.55	
O. Other and None	45	3.51	
<hr/>			
F = 2.78	df = (3,162)		p = .043

TABLE 43

PROBABILITY MATRIX  
FOR SCHEFFE MULTIPLE COMPARISON OF MEANS

Post-Secondary Educational Plan	U	C	T	O
U	1.000	.997	.147	.266
C		1.000	.263	.413
T			1.000	.995





TABLE 44

CHI SQUARE TEST  
BETWEEN POST-SECONDARY EDUCATIONAL PLAN  
AND SEX

Post-Secondary Educational Plan	Sex		Total
	Male	Female	
U. University	20	14	34
C. Junior College and Nurses Training	4	27	31
T. NAIT, SAIT, and Agricultural College	27	29	56
O. Other and None	21	25	46
Total	72	95	167

Chi Square = 15.672

Degrees of Freedom = 3

.01 > Probability > .001 (Significant)



null hypothesis was then rejected. Table 44 shows a male-to-female ratio of ten to seven for university-bound students and a one to four ratio for students aspiring to junior colleges and nursing schools. The proportion of males and females is almost equal with respect to Plan T and Plan O.

## SUMMARY OF CHAPTER SIX

Fourteen hypotheses were formulated and tested on post-secondary educational plans with respect to organizational climate of schools, student satisfaction, achievement, family background, programs of study, age and sex.

Four types of statistical tests were applied to these hypotheses. One-way analysis of variance was employed when the criterion variables were in the ratio scale and when the sample size was twenty or above. If the assumption of homogeneity of variance could be established, further investigation by parametric tests was carried out. In one case, the Scheffe procedure was followed in spite of some violation of such an assumption. When the assumptions underlying the analysis of variance were seriously violated, a Kruskal-Wallis test was used. The chi square test was applied when there was a need to test for significant association between variables. Such was the case for post-secondary educational plans and variables like father's occupation, climate type of school and student sex.

Of the fourteen null hypotheses tested, seven were accepted and seven were rejected. Table 45 summarizes the



TABLE 45

SUMMARY OF FINDINGS ON VARIABLES  
RELATED TO POST-SECONDARY EDUCATIONAL PLANS

Variables	Probability of	
	Analysis of Variance	Chi Square
1. Degree of Openness	.930	
2. OGDQ Subtests	.170 and greater	Greater than .30
3. Climate Type of School		
* 4. Satisfaction in Open Climate Schools	.068 ( <u>C U I O</u> )	
5. Satisfaction in Closed Climate Schools	Greater than .80	
* 6. Achievement in Open Climate Schools	.000 ( <u>U C I O</u> )	
7. Achievement in Closed Climate Schools	Greater than .50	
** 8. Program of Study		Smaller than .01
* 9. Father's Education	p<.05 ( <u>U C I O</u> )	
* 10. Mother's Education	.001 ( <u>U C I O</u> )	
* 11. Father's Occupation		Greater than .10
* 12. Parental Income	.001 ( <u>U T C O</u> )	
* 13. Age	.043 ( <u>U C I O</u> )	
* 14. Sex		Smaller than .01

\* Significant difference in mean scores between students grouped by plans.

\*\* Significant association with plans.



findings in this chapter.

When students were grouped according to post-secondary educational plans, there was no significant difference in their perceptions of degree of Openness and climate dimensions. There was no relationship between such plans and climate type of school.

When looking at student satisfaction and student achievement between different post-secondary educational plans in each category of school, significant difference was found in satisfaction and achievement in open climate schools but not in closed climate schools. For open climate schools, students in Plan C "Junior College and Nurses Training" seemed to be more satisfied than students in Plan O "Other and None". Similarly, students in Plans U-C had higher achievement than those in Plan T, who in turn achieved at a higher level than those in Plan O.

Among the four variables having to do with family and socioeconomic backgrounds, three were found significantly related to post-secondary educational plans. They are father's education, mother's education, and parental incomes. These variables tended to be higher for students in Plans U-C and lower for students in Plan O. Father's occupation categorized as "farming" and "non-farming" had no significant association with post-secondary educational plans.

Sex was significantly related to post-secondary educational plans. Age was not significantly different between students in the four plans.





## Chapter 7

### SUMMARY, CONCLUSIONS AND IMPLICATIONS

The primary aim of this investigation was to study the twelfth grade students' post-secondary educational plans in relation to open and closed climate schools. An examination was also made to see whether or not a relationship existed between such plans and other variables. The variables selected for this study were student achievement, satisfaction, socioeconomic background, sex and age. In this final chapter, the study is summarized and implications for research are presented.

### SUMMARY OF THE STUDY

#### The Problem

Seven specific problem areas were included:

1. Is there congruence of teacher and student perceptions of school climate?
2. Are students' post-secondary educational plans related to student perceptions of school climate?
3. Do students who have different post-secondary educational plans have different levels of satisfaction in either category of school climate?
4. Do students who have different post-secondary educational plans attain different degrees of achievement in either category of school climate?
5. Are students' post-secondary educational plans



associated with socioeconomic background?

6. Are students' post-secondary educational plans related to their programs of study?

7. Is there any difference in post-secondary educational plans between males and females and between students in different age categories?

### Procedure

The sample consisted of four schools selected from rural schools in Alberta having twenty or more teachers and some Grade XII students. Schools A and B were chosen from the most open climate schools as determined by the responses of principals and vice principals on the School Climate Questionnaire. Schools C and D were selected from the least open climate schools on the same basis.

The teacher sample consisted of 97 teachers from these four schools, who responded to the OCDQ. About 46 percent of these teachers were staff members of the open climate schools, whereas 54 percent were staff members of the closed climate schools.

The student sample comprised of 167 twelfth grade students from the four schools, who responded to the modified OCDQ. Almost 70 percent were from the open climate schools and the rest came from the closed climate schools.

Four statistical tests were applied to test hypotheses formulated for this study. One-way analysis of



variance and Scheffe multiple comparison of means were used wherever the assumption of homogeneity of variance could be met. When this was not the case, or when the sample size was small, the Kruskal-Wallis nonparametric one-way analysis of variance was used. In testing for association of discrete variables, the chi square test for significance of contingency coefficient was used.

The findings of this research were classified into four categories. The first category pertained to congruence of teacher and student perceptions of school climate. The second category was related to differences in school variables between post-secondary educational plans. The third category included relationships between post-secondary educational plans and family variables. The last category pertained to association of post-secondary educational plans and personal variables.

#### Summary of Findings Related to Congruence of Teacher and Student Climate Perceptions

The findings provided support for the rating of Schools A and B as being more open than Schools C and D. When the teacher responses were considered, School C was the only one to be significantly less open than School A and B in terms of the Openness score. Significant differences were found between schools for Disengagement, Esprit, Production Emphasis, and Thrust.

When students were considered, Schools A and B



were each seen to be significantly more open than Schools C and D. Significant differences were found for all eight OCDQ subtests.

When School A was combined with School B and, similarly, School C with School D, the analysis showed that School A-B were more open than Schools C-D. Such was the case for both the teachers and the students. Grouping the schools in this manner, teachers and students illustrated similarity in their perceptions on most OCDQ subtests. They both indicated significant differences in Hindrance, Esprit, Thrust and degree of Openness, but no differences in Intimacy and Aloofness between the two school groups. It could be inferred that congruence of their perceptions existed to a fairly high degree.

#### Summary of Findings Related to Post-Secondary Educational Plans and School-Associated Variables

When students were grouped by post-secondary educational plans, they did not differ significantly in their perceptions of degree of Openness and climate dimensions. Also, no relationship was found between such plans and climate type of school.

A significant relationship existed between post-secondary educational plans and degrees of satisfaction in open climate schools but not in closed climate schools. Satisfaction difference was significant between students in Plan C "Junior College and Nurses Training" and those in Plan O "Other and None".





A significant relationship was found between post-secondary educational plans and level of achievement for students in open climate schools but not for students in closed climate schools. Students in Plan U "University" and Plan C "Junior College and Nurses Training" attained significantly higher levels of achievement (in English and social studies) than those in Plan T "NAIT, SAIT and Agricultural College". The students in Plan T had significantly higher achievement than those in Plan O.

There was significant association between plan and program of study when Plan U "University" was not taken into consideration. Significantly more students from the matriculation program than the others aspired to Plan C "Junior College and Nurses Training". Similarly, more students from this program than the other had other plans or no plans. Among students who were not taking matriculation, a significantly greater number aspired to Plan T "NAIT, SAIT and Agricultural College" than otherwise.

#### Summary of Findings Related to Post-Secondary Educational Plans and Family Variables

Father's level of education was found significantly different between students when grouped by post-secondary educational plans. Students aspiring to university education had fathers who were significantly better educated than the fathers of students in other plans.

There was a significant difference in mother's level of education between plans. The mothers of students



in Plan U "University" and Plan C "Junior College and Nurses Training" had attained a higher educational level than the mothers of those in Plan T "NAIT, SALT and Agricultural College". The mothers of students in Plan T, in turn, had received better education than the mothers of those in Plan O "Other and None".

Parental income was significantly different between plans. Students in Plan O "Other and None" came from families earning lower incomes than the families of those in other plans.

Father's occupation, when broken down into "farming" and "non-farming" categories, was found to bear no relationship with students' post-secondary educational plans.

#### Summary of Findings Related to Students' Post-Secondary Educational Plans and Student Personal Variables

A significant relationship was found between post-secondary educational plan and sex. A significantly greater number of male students than females planned to attend university. The reverse was true for those who planned to enter junior colleges and nursing schools.

A probability of .043 was found in a test of difference in age between students in the four plans. But further investigation revealed no significant difference between any pair of age means. Therefore, age was not significantly different between students in these plans.



## CONCLUSIONS

The findings in the first part of this study somewhat contradicted Marsh's research done on two high schools of opposing climates. (1970) In his investigation, Marsh found perceptual congruence of school climate to be lacking between teachers and students. In the present study, teachers and students agreed on the relative degree of Openness of both types of schools. Out of the eight sub-tests, they agreed upon five when tests of difference were applied. With an exception of Disengagement, they both tended to rate high on positive factors and low on negative factors for the open climate schools. Similarly, they tended to rate low on positive factors and high on negative factors for the closed climate ones. This provides ground to believe that congruence existed in teacher and student perceptions of school climate in these rural schools.

An investigation of student perceptions alone in different groups according to post-secondary educational plans did not confirm that each group felt differently about the school climate. Perhaps the organizational climate of school is not generally a key factor in students' choice for education beyond the high school level.

The most interesting finding is the result of a study of the association of post-secondary educational plans with satisfaction scores and achievement levels. Such a relationship is significantly high in the open



climate schools while it is negligible in the closed climate schools. Two explanations are seen possible for this relationship in the open climate school.

1. Open climate schools provide the kind of interaction between teachers and students which contributes to student satisfaction. While such satisfaction is possible for all students, those who aspire to a certain plan seem to fulfil it at a higher degree than those aspiring to another plan.

2. Open climate schools provide more freedom to students. Since students vary in their ability to take responsibility, students aspiring to one plan can manage to take more advantage of this provision than those aspiring to another plan.

Students' program of study is likely to be seen as a factor that predetermines students' post-secondary choices. This is the case for university education which requires students to take the matriculation program. For the choice of "Junior College and Nurses Training", more students came from matriculation than from others. Similarity existed in the "Other and None" category.

Some findings in this study supported the findings in cited literature. Father's education, mother's education and parental income were factors being closely related to students' educational aspirations. As expected, students who planned to enter university tended to come from families with higher scores in these three factors.





On the other hand, students who had other plans than university, vocational training and technical education, or who had no plans at all, tended to come from families with lower scores in these factors. The findings on father's occupation did not support the notion that farm children generally had lower aspirations than non-farm children.

While sex was associated with post-secondary educational plans, age was not a related factor. On the one hand, more males than females aspired to university education. On the other hand, more females than males planned for junior colleges and nursing schools.

The students who aspire to university education, according to this study, tend to be those who are moderately satisfied and have attained a higher degree of achievement when they are in the open climate schools. Generally, they come from families with better mother's levels of education and higher incomes. There tend to be more boys than girls, without any distinction in age and father's occupations.

The students who plan to attend vocational institutions--junior colleges and nursing schools-- seem to be those who have high satisfaction and have attained a higher degree of achievement when they are in the open climate schools. They tend to be girls in the matriculation program, whose mother's educational levels are high but moderate parental incomes and relatively low father's



education.

Aspiring to the technical institutions--NAIT, SAIT and Agricultural College--are those who have attained average achievement and fulfilled moderate satisfaction when they are in the open climate schools. They come from families with average mother's education, relatively low father's education and high parental incomes.

Finally, there are students who have other plans or no plans at all. These students are likely to be least satisfied and have achieved least when in the open climate schools (although the levels of satisfaction and achievement are not distinguishable in the closed climate schools). They are matriculation students who come from families with lower father's and mother's educational levels and lower parental incomes.

## IMPLICATIONS

### Implication for Theory and Practice

This investigation reveals the evidence that overall Openness of school climate bears no relationship with students' post-secondary educational plans. An implication of this finding might be that the type of teacher-student interaction, whether as a prevailing phenomenon or as a perceptual concept, does not affect the students' aspirations. Climate openness, therefore, will not serve motivational purposes with respect to education at a higher level. This could be explored in the ground of further



research.

Satisfaction and achievement do differ between choice categories in open climate schools. This leads to an implication that climate openness nurtures satisfaction and achievement for certain type of students. While climate openness cannot be expected to improve the student's aspiration, it may be expected to elevate satisfaction and achievement for certain students.

Although school climate is subject to the individual's perception, evidence shows that there exists some degree of consistency. In spite of suspected existence of two climate levels--the one assumed to stem from principal-teacher interaction and the other from teacher-student interaction--there seems to be a prevailing overall climate. Congruence of teacher and student opinions supports this notion. In spite of the uncertainty as to which one of the two modes of interaction is the original source of the overall climate, it is desirable that administration should initiate an interaction which will lead to the type of climate desired in the hope that the teacher-student interaction may develop in the same direction.

The operational model described in Chapter 1 points out that several factors accrue to the student's decision-making concerning his post-high school plan. A look at the research summary shows that this model is well supported. Satisfaction and achievement in open climate



schools are factors which are closely related to plans. This suggests that there exists an interaction effect between the three variables--satisfaction or achievement, climate openness, and post-high school planning. Other factors which are found significant in this operational model are program of study, father's education, mother's education, parental income and sex.

To clarify this model, the students' decision-making process with respect to post-secondary educational planning may be thought of as being generated with reference to three dimensions. These dimensions include school environments, family conditions, and personal factors. In this study, several variables are found in connection with each dimension. The "school environments" dimension involves satisfaction and achievement in the open climate school, and student programs of study in either type of school. The "family conditions" dimension includes father's education, mother's education, and parental incomes. Finally, the "personal factors" dimension involves the student's sex.

#### Recommendations for Further Research

Some possible areas for further research are suggested by the findings of this research.

1. A study could be taken on satisfaction and achievement in large urban high schools of open and closed climate. Determination could then be made whether there is





any significant difference in these two variables between students in various post-secondary education choices.

2. A more comprehensive study could be conducted to enlarge this model. There may be several other variables that can be identified as being closely related to post-high school educational plans. An attempt could be made to apply factor analysis to all related variables and substantial factors be extracted. Ultimately, a multi-variate prediction could be found possible to apply to such plans.

3. A more comprehensive investigation could be undertaken in an attempt to identify as many variables related as possible. The three dimensions proposed as a result of this study could be added to by one or two more others and thus a more complete model might be derived.



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## APPENDIX

### INSTRUMENTS USED IN THIS STUDY



## SCHOOL CLIMATE QUESTIONNAIRE

### PART I -- INTRODUCTION

The statements in Part III of this questionnaire have to do with certain aspects of a school's operation. Each statement represents, directly or indirectly, some aspect of school policy with reference to student personnel. The extent to which each of these practices is permitted in a school can be construed as being partially indicative of the principal's philosophy of education, subject to whatever constraints are imposed by external bodies such as the School Board or Department of Education.

Within each school the application of school management practices affects student and staff attitudes, thus contributing to the creation of what has been called the school's 'climate'. For the purpose of this study only one general dimension of school climate will be considered, openness.

### PART II -- INSTRUCTION

- A. Use the categories described below for your responses to the statements in Part III.
  1. No Students are permitted to engage in the practice. The practice is officially banned in the school.
  2. A few students are officially permitted to engage in the practice.
  3. Many students are allowed to engage in the practice.
  4. All students may engage in the practice.
- B. For each of the practices in Part III please circle the number of the category which best describes your school's official policy.
- C. In order that the scores of all schools be directly comparable, it is essential that you respond to every item.
- D. Make certain you write the name of your school at the top of both pages 2 and 3.



School \_\_\_\_\_

## PART III

	<i>No students</i>	<i>A few students</i>	<i>Many students</i>	<i>All students</i>
1. Students are permitted to leave the school premises (grounds and buildings) during school hours without special permission from the office.	1	2	3	4
2. Students may go home when their last class for the day is over.	1	2	3	4
3. Students may use their study of free periods as they wish.	1	2	3	4
4. Matters of school dress and appearance are left to the student's discretion.	1	2	3	4
5. Students are permitted free access to school hallways and to their lockers during class time (no pass required).	1	2	3	4
6. Students are permitted free access to school facilities such as library, cafeteria, or unused classrooms during study periods or unassigned time (no pass required).	1	2	3	4
7. Attendance by students at scheduled classes is voluntary.	1	2	3	4
8. Students who arrive at school after a school session has begun are permitted to go directly to class without first obtaining a late slip from the office.	1	2	3	4
9. Before each school session students must register in home rooms to have their attendance taken.	1	2	3	4





School \_\_\_\_\_

	No students	A few students	Many students	All students
10. Students are required to bring a note to explain absences from school.	1	2	3	4
11. Students are freely permitted to enter the school program of their choice (not arbitrary restrictions such as marks over 50 per cent are imposed).	1	2	3	4
12. Students are freely permitted to drop a course when they feel their course load is too heavy or when they feel they have no chance of passing the course.	1	2	3	4
13. Smoking by students is permitted in a special room in the school or on the school grounds.	1	2	3	4
14. Students are permitted to arrive at school in the morning or afternoon at the time of their first scheduled class.	1	2	3	4

## PART IV

Compared with the other rural high schools in Alberta, estimate the degree of openness that exists in your school, with respect to students.

Circle the number of your response.

Low		Average			High	
1	2	3	4	5	6	7

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## ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

### DIRECTIONS:

- a. READ each item carefully.
- b. THINK about how well the statement describes your school.
- c. DECIDE whether the behavior or condition described in the item occurs rarely, sometimes, often, or very frequently in your school.
- d. DRAW A CIRCLE around one of the four letters following the item to show the answer you have selected.

A = Very frequently occurs

B = Often occurs

C = Sometimes occurs

D = Rarely occurs

Please respond to EVERY item.

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. Teachers' closest friends are other faculty members at this school.          | A | B | C | D |
| 2. The mannerisms of teachers at this school are annoying.                      | A | B | C | D |
| 3. Teachers spend time after school with students who have individual problems. | A | B | C | D |
| 4. Instructions for the operation of teaching aids are available.               | A | B | C | D |
| 5. Teachers invite other faculty members to visit them at home.                 | A | B | C | D |
| 6. There is a minority group of teachers who always oppose the majority.        | A | B | C | D |
| 7. Extra books are available for classroom use.                                 | A | B | C | D |
| 8. Sufficient time is given to prepare administrative reports.                  | A | B | C | D |
| 9. Teachers know the family background of other faculty members.                | A | B | C | D |
| 10. Teachers exert group pressure on non-conforming faculty members.            | A | B | C | D |
| 11. In faculty meetings, there is the feeling of "let's get things done."       | A | B | C | D |
| 12. Administrative paper work is burdensome at this school.                     | A | B | C | D |
| 13. Teachers talk about their personal life to other faculty members.           | A | B | C | D |
| 14. Teachers seek special favors from the principal.                            | A | B | C | D |



- |   |   |   |   |   |
|---|---|---|---|---|
| 15. School supplies are readily available for use in classwork.                 | A | B | C | D |
| 16. Student progress reports require too much work.                             | A | B | C | D |
| 17. Teachers have fun socializing together during school time.                  | A | B | C | D |
| 18. Teachers interrupt other faculty members who are talking in staff meetings. | A | B | C | D |
| 19. Most of the teachers here accept the faults of their colleagues.            | A | B | C | D |
| 20. Teachers have too many committee requirements.                              | A | B | C | D |
| 21. There is considerable laughter when teachers gather informally.             | A | B | C | D |
| 22. Teachers ask nonsensical questions in faculty meetings.                     | A | B | C | D |
| 23. Custodial service is available when needed.                                 | A | B | C | D |
| 24. Routine duties interfere with the job of teaching.                          | A | B | C | D |
| 25. Teachers prepare administrative reports by themselves.                      | A | B | C | D |
| 26. Teachers ramble when they talk in faculty meetings.                         | A | B | C | D |
| 27. Teachers at this school show much school spirit.                            | A | B | C | D |
| 28. The principal goes out of his way to help teachers.                         | A | B | C | D |
| 29. The principal helps teachers solve personal problems.                       | A | B | C | D |
| 30. Teachers at this school stay by themselves.                                 | A | B | C | D |
| 31. The teachers accomplish their work with great vim, vigor, and pleasure.     | A | B | C | D |
| 32. The principal sets an example by working hard himself.                      | A | B | C | D |
| 33. The principal does personal favors for teachers.                            | A | B | C | D |
| 34. Teachers eat lunch by themselves in their own classrooms.                   | A | B | C | D |
| 35. The morale of the teachers is high.   | A | B | C | D |
| 36. The principal uses constructive criticism.                                  | A | B | C | D |
| 37. The principal stays after school to help teachers finish their work.        | A | B | C | D |
| 38. Teachers socialize together in small select groups.                         | A | B | C | D |
| 39. The principal makes all class-scheduling decisions.                         | A | B | C | D |
| 40. Teachers are contacted by the principal each day.                           | A | B | C | D |
| 41. The principal is well prepared when he speaks at school functions.          | A | B | C | D |
| 42. The principal helps staff members settle differences.                       | A | B | C | D |



- |  |   |   |   |   |
|--|---|---|---|---|
| 43. The principal schedules the work for the teachers.                 | A | B | C | D |
| 44. Teachers leave the grounds during the school day.                  | A | B | C | D |
| 45. Teachers help select which courses will be taught.                 | A | B | C | D |
| 46. The principal corrects teachers' mistakes.                         | A | B | C | D |
| 47. The principal talks a great deal.                                  | A | B | C | D |
| 48. The principal explains his reasons for criticism to teachers.      | A | B | C | D |
| 49. The principal tries to get better positions for teachers.          | A | B | C | D |
| 50. Extra duty for teachers is posted conspicuously.                   | A | B | C | D |
| 51. The rules set by the principal are never questioned.               | A | B | C | D |
| 52. The principal looks out for the personal welfare of teachers.      | A | B | C | D |
| 53. School secretarial service is available for teachers' use.         | A | B | C | D |
| 54. The principal runs the faculty meeting like a business conference. | A | B | C | D |
| 55. The principal is in the building before teachers arrive.           | A | B | C | D |
| 56. Teachers work together preparing administrative reports.           | A | B | C | D |
| 57. Faculty meetings are organized according to a tight agenda.        | A | B | C | D |
| 58. Faculty meetings are mainly principal-report meetings.             | A | B | C | D |
| 59. The principal teels teachers of new ideas he has run across.       | A | B | C | D |
| 60. Teachers talk about leaving the school system.                     | A | B | C | D |
| 61. The principal checks the subject-matter ability of teachers.       | A | B | C | D |
| 62. The principal is easy to understand.                               | A | B | C | D |
| 63. Teachers are informed of the results of a supervisor's visit.      | A | B | C | D |
| 64. The principal insures that teachers work to their full capacity.   | A | B | C | D |





# ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE (Modified for Students)

Indicate whether the behavior or condition described in each item occurs very frequently, often, sometimes, or rarely in your school. CIRCLE the appropriate response to the right of each statement.

	Very Frequently Occurs	Often Occurs	Sometimes Occurs	Rarely Occurs
1. The mannerisms of students in this school are annoying.	1	2	3	4
2. There is a minority group of students who always oppose the majority.	1	2	3	4
3. Students exert group pressure on nonconforming class members.	1	2	3	4
4. Students seek special favors in the school.	1	2	3	4
5. Students interrupt other class members who are answering in class.	1	2	3	4
6. Students ask nonsensical questions in class.	1	2	3	4
7. Students ramble when they talk in class	1	2	3	4
8. Students in this school keep to themselves.	1	2	3	4
9. Students talk about leaving the school.	1	2	3	4
10. Students socialize together in small select group.	1	2	3	4
11. Routine duties interfere with the job of learning.	1	2	3	4
12. Students have too many course requirements.	1	2	3	4
13. Assignments require too much work.	1	2	3	4
14. Rules are burdensome at this school.	1	2	3	4
15. Sufficient time is given to prepare assignments.	1	2	3	4
16. Instructions for the operation of such study aids as projectors, tape-recorders, etc., are available.	1	2	3	4
17. <u>The morale</u> of the students is high.	1	2	3	4
18. Students accomplish their work with great vim, vigor and pleasure.	1	2	3	4
19. Students at this school show much team spirit.	1	2	3	4



	Very Frequently Occurs	Often Occurs	Sometimes Occurs	Rarely Occurs
20. Janitors and caretakers provide service when needed.	1	2	3	4
21. Most of the students have accepted the faults of their fellow students.	1	2	3	4
22. School supplies are readily available for use in classwork.	1	2	3	4
23. There is considerable laughter when students gather socially.	1	2	3	4
24. In class there is a feeling of "let's get things done."	1	2	3	4
25. Extra books are available in the classrooms for student use.	1	2	3	4
26. Students spend their free time helping fellow students with individual problems.	1	2	3	4
27. Students' closest friends are other class members at this school.	1	2	3	4
28. Students invite other class members to visit them at home.	1	2	3	4
29. Students know the family background of other class members.	1	2	3	4
30. Students talk about their personal life to other class members.	1	2	3	4
31. Students have fun socializing together during school time.	1	2	3	4
32. Students work together preparing class assignments.	1	2	3	4
33. Students prefer to prepare class assignments by themselves.	1	2	3	4
34. Class meetings are organized according to a tight agenda.	1	2	3	4
35. Regular classroom sessions are teacher-dominated.	1	2	3	4
36. The teacher runs the classroom sessions like a business conference.	1	2	3	4
37. Students leave the grounds during the school day.	1	2	3	4
38. Students eat lunch by themselves.	1	2	3	4
39. School rules are never questioned.	1	2	3	4



	Very Frequently Occurs	Often Occurs	Sometimes Occurs	Rarely Occurs
40. Students are deliberately contacted by the teacher each day.	1	2	3	4
41. Some type of secretarial service is available for student use.	1	2	3	4
42. Students are informed of the results of the principal's visit.	1	2	3	4
43. The teacher makes all lesson-scheduling decisions	1	2	3	4
44. The teacher schedules the work for the student.	1	2	3	4
45. The teacher harps on the subject matter ability of students.	1	2	3	4
46. The teacher harps on students' mistakes.	1	2	3	4
47. The teacher demands that students work to their full capacity.	1	2	3	4
48. Extra assignments for students are clearly stated.	1	2	3	4
49. The teacher talks a great deal.	1	2	3	4
50. The teacher goes out of his way to help students.	1	2	3	4
51. The teacher sets an example by working hard himself.	1	2	3	4
52. The teacher uses constructive criticism.	1	2	3	4
53. The teacher is well prepared for lessons.	1	2	3	4
54. The teacher explains his reasons for criticism to students.	1	2	3	4
55. The teacher looks out for the personal welfare of students.	1	2	3	4
56. The teacher is in the classroom before students arrive.	1	2	3	4
57. The teacher tells students of new ideas he has run across.	1	2	3	4
58. The teacher is easy to understand.	1	2	3	4
59. The teacher helps students solve personal problems.	1	2	3	4
60. The teacher does personal favors for students.	1	2	3	4



	Very Frequently Occurs	Often Occurs	Sometimes Occurs	Rarely Occurs
61. The teacher stays after school to help students finish their work.	1	2	3	4
62. The teacher helps students settle minor differences.	1	2	3	4
63. Students help select which courses will be taught.	1	2	3	4
64. The teacher tries to get more privileges for students.	1	2	3	4





## STUDENT QUESTIONNAIRE

### PART I POST-SECONDARY EDUCATIONAL PLANS

Which of the following post-secondary options are you most likely to take when you leave high school at the end of the current academic year? THINK CAREFULLY.

1.       (1) University
- (2) Junior College
- (3) Northern Alberta Institute of Technology
- (4) Southern Alberta Institute of Technology
- (5) Agricultural College
- (6) Nurses Training
- (7) Other
- (8) None

### PART II SATISFACTION

Rate your degree of satisfaction as a student in each of the following areas, using this scale. CIRCLE the response which best describes your feelings.

	Highly Satisfied	Quite Satisfied	Slightly Satisfied	Slightly Dissatisfied	Quite Dissatisfied	Highly Dissatisfied
2. Relationships with other students in your school.	1	2	3	4	5	6
3. Relationships with your teachers.	1	2	3	4	5	6
4. Relationships with the counselor(s).	1	2	3	4	5	6
5. Relationships with the principal and other administrators.	1	2	3	4	5	6
6. The learning experience you have had from your program of study as in indicated in No. 8.	1	2	3	4	5	6
7. Other school activities which are not part of your course work.	1	2	3	4	5	6



## PART III PERSONAL INFORMATION

Please CIRCLE the response which applies to you or your parent(s). DO NOT UNDERLINE.

8. In which of the following high school programs are you now registered?

- |                  |                         |
|------------------|-------------------------|
| 1. Matriculation | 3. Technical-Vocational |
| 2. General       | 4. Business             |

9. What is your sex?

1. Male  
2. Female

10. What is your age as of February 28, 1971?

- |                     |                   |
|---------------------|-------------------|
| 1. Fifteen or under | 4. Eighteen       |
| 2. Sixteen          | 5. Nineteen       |
| 3. Seventeen        | 6. Twenty or over |

11. What was your average grade for the English and social studies courses on your last report in this school?

- |                |               |
|----------------|---------------|
| 1. A (80-100%) | 4. D (40-49%) |
| 2. B (65-79%)  | 5. F (0-39%)  |
| 3. C (50-64%)  |               |

12. What is your father's highest level of education?  
and  
13. What is your mother's highest level of education?

<u>Highest level of education</u>	<u>Father</u>	<u>Mother</u>
Elementary School . . . . .	1	1
Some high school. . . . .	2	2
High school graduate or equivalent	3	3
Some University or equivalent . . .	4	4
University graduate . . . . .	5	5

14. Estimate your parents' combined income for last year.

- |                      |                      |
|----------------------|----------------------|
| 1. Less than \$4,000 | 5. \$10,000-11,999   |
| 2. \$4,000-5,999     | 6. \$12,000-13,999   |
| 3. \$6,000-7,999     | 7. \$14,000 and over |
| 4. \$8,000-9,999     |                      |

15. What is (was) your father's occupation?

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